

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—38TH YEAR.

SYDNEY, SATURDAY, SEPTEMBER 1, 1951.

No. 9.

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An Address.¹

THE LIFE AND TIMES OF WILLIAM GOSSE.

By C. O. F. RIEGER,

Retiring President of the South Australian Branch of the British Medical Association.

It is with great diffidence that I appear before you to inflict on you another presidential address, for which I crave your forbearance.

This being the Jubilee Year of our Commonwealth and a time for retrospection, it was considered not inappropriate to review the beginning of our Branch and to learn something of the life and times of our first president, and so I have entitled this address "The Life and Times of William Gosse".

It will perhaps not be known to all of you that this Branch was the second overseas Branch of the British Medical Association, the first being formed in Jamaica in 1877.

In the forty-three years following the foundation of the colony there had been other medical societies, but, mainly owing to bickerings between the members, all had gone out of existence. On May 30, 1879, at a preliminary meeting at the house of Dr. William Gardner, it was resolved to form a new society, if possible a Branch of the British Medical Association. The minutes of the next meeting record that

at a Meeting of Medical Practitioners interested in the formation of a new Medical Society held at Trew's South Australian Club Hotel on June 19th, 1879, Dr. Gosse in the chair, the following resolutions were proposed:

1. That a Society be formed to be called the "South Australian Branch of the British Medical Association".

¹ Read at the annual meeting of the South Australian Branch of the British Medical Association on June 27, 1951.

Dr. W. T. Hayward, in supporting the motion, described the aims and objects and mode of action of the B.M.A. The resolution was carried with only two dissentients.

After the qualifications for membership, the composition of the executive, and other matters were decided, "the Council was then elected, and the choice of the meeting fell on the following officers:

President: Dr. Wm. Gosse.

Vice-President: Dr. Corbin.

Treasurer: Dr. Hawkins.

Secretary: Dr. Cleland.

Ordinary Members: Dr. Gardner, Dr. Clendinning, Dr. Way."

The first meeting of the Council was held at the house of Dr. Gosse on July 3, 1879, and the home of the president was used for these meetings for many years.

General meetings were at first held at the university class rooms in Victoria Square, and later in the board room of the Adelaide Hospital. At the monthly meeting on Thursday, November 25, 1880, a letter was read from the general secretary of the British Medical Association (Francis Fowke), dated September 4, 1880, which contained a copy of a minute of a committee of Council held on July 7, 1880, as follows:

Read communication from Dr. Cleland of Adelaide of March 6th 1880 whereupon it was resolved: That the Branch for Adelaide and South Australia be and it is hereby recognised as a Branch of the B.M.A. and that the proposed By-Laws be approved. Resolved also that the Committee of Council desire to offer their warm welcome to the Australian Branches formed at Adelaide and Sidney now formally recognised, and trust that the new Branches may not only be the means of cementing the good feeling which already exists between the members of the profession in England and the Colonies, but may also facilitate the interchange of ideas and so prove of value in the advancement of medical science and the interests of the medical profession.

It will be realized that the formal acknowledgement of approval of the establishment of this Branch did not arrive until our second president, Dr. T. W. Corbin, occupied the chair. Dr. Gosse was then an ordinary member of Council, having been elected at the first annual meeting on June 24, 1880. He was at this time the doyen of the profession in this State, universally respected, having always taken a great interest in all medical matters, and his opinion being highly valued by his colleagues.

He was born in Newfoundland in 1813. While he was very young his father left for England and settled at Poole in Dorsetshire. He received his early education at Mr. Buller's school at Southampton, and later began his professional studies in Poole as an apprentice to a Mr. Salter. He then proceeded to London and entered Guy's Hospital as a pupil of Mr. Morgan, a surgeon of that institution. Having obtained the qualifications of L.W.C.A.L. (Licentiate of the Worshipful Company of Apothecaries, London) on November 20, 1835, and the M.R.C.S. London on February 11, 1836, he then commenced practice at Hoddeston in Hertfordshire. Here he remained for fifteen years, and here all his children were born, his wife being Agnes, the eldest daughter of Mr. Grant, of Old Broad Street, London.

In his early days he was very interested in natural history, being associated with Philip H. Gosse the naturalist, whom he frequently assisted in the collection of specimens. His health being impaired by bronchitis, he was advised to try a warmer climate, and so sailed for Melbourne, where he arrived in December, 1850. After a few days in that city he and his family sailed for Adelaide in the brigantine *Elizabeth*, 124 tons, and after five days at sea reached this city on Tuesday, December 31, the master, Captain Foyle, being complimented on his expeditious voyage.

The colony had just celebrated the fourteenth anniversary of its foundation, the population was over 60,000, finances were buoyant, and there was a general optimism about the future. Our copper mines were in active operation, and a leader in the *South Australian Register* of December 31, 1850, stated: "South Australia is pre-eminently the mineral region of this continent—the development of its metalliferous potentialities must certainly be considered as yet in its infancy." Dr. Gosse may possibly have noticed an advertisement in the same paper to this effect:

On New Year's Day, Host Simmons of the Travellers' Rest Inn, Brownhill Creek, invites all his old friends, new arrivals, and others, to a sumptuous entertainment consisting of a

ROASTED BULLOCK

and suitable accompaniments, with which he will present them free of charge.

It is not recorded whether the family dined at Brownhill Creek that day.

The minutes of the meeting of the Medical Board held at the Adelaide Hospital on April 1, 1851, record that Dr. Gosse presented his credentials and was granted the Board's certificate. His was the seventieth registration recorded.

At this meeting Dr. Bayer tendered his resignation as an honorary medical officer of the hospital, and a note appears advising an applicant for this position that "Honorary Medical Officers were appointed from the list of registered practitioners taken in gradation".

The first year that William Gosse spent in the colonies, one hundred years ago, was a memorable one both in this colony and in all Australia. The most important items in our newspapers concerned Murray navigation (a project dear to the Governor), the anti-transportation movement, the provision of a light for the Troubridge Shoal, and the elections for the Legislative Council.

In August, 1850, the *Australian Colonies Government Act* was passed by the British Parliament. This conferred upon Victoria, Western Australia, South Australia and Tasmania government by partly elective legislative councils with free scope to modify their form of government.

On Wednesday, August 20, 1851, we read: "This day the colony of South Australia terminates her state of pupillage.

She has succeeded to the natural inheritance of Britons, the right to legislate for themselves." The new Legislative Council had assumed its functions. The Lieutenant-Governor (only New South Wales then being entitled to a Governor), Sir Henry Edward Fox-Young, in his inaugural speech referred to the statistically gratifying condition of the colony, and stated that the business before the Council would include the consideration of a supply of pure water for the city of Adelaide, the building of a new council hall, and a loan for the building of a railway to the port.

One hundred years ago there appeared a proclamation by the Lieutenant-Governor:

To constitute a Municipal Corporation for the City of Adelaide.

Signed, by command,
Charles Sturt,
Colonial Secretary.

The Council originally created on October 31, 1840, after a stormy three years of disputes over rating, and dissension with Governor Grey, had dissolved in a state of bankruptcy and civic apathy on September 28, 1843.

Following this proclamation machinery was set in motion and the new corporation met on June 1, 1852.

One hundred years ago gold was discovered in fabulous quantities, and one may read in the Press of the frenzy in Bathurst, and the details of the arrival in that town of Dr. Kerr with his hundredweight of gold found at one strike.

The *Register* of October 13 refers to "the astonishing discoveries which have rendered Victoria so remarkable in the first year of its existence as a separate province", and then, after relating many details of rich discoveries: "We have given quite enough of the gold news to certify the reality of the astounding discoveries made."

Quite enough was given to attract an estimated 16,000 of the populace of South Australia to the diggings, among them Dr. Gosse. This exodus arrested the tide of prosperity in the State. Practically all available coin was taken away by the diggers, shops closed, public works came to a standstill, crops remained unharvested, shopkeepers issued notes for as low as twopence, and those for sixpence were common currency. It is recorded that a valuable sheep run was sold at the rate of one shilling and sixpence per sheep on it. However, in 1852 the tide turned again, and the importation of gold from Victoria (made legal currency by the Governor), and the return of the bulk of the population, both the successful and the unsuccessful, saw a return of trade and prosperity.

Numbered among the unsuccessful prospectors was William Gosse, and his essay at gold mining not being rewarded, he returned to Adelaide and resumed his practice. In 1854 he lived in King William Street, four years later he was living in Grenfell Street, and in 1862 was established on North Terrace, where he continued to practise until his retirement in 1880, when he removed to Wakefield Street, Kent Town.

The notice of his first public appointment appeared in the *Government Gazette* of May 12, 1853, and reads: "His Excellency the Lieut.-Governor has been pleased to appoint William Gosse, M.D., to be a member of the Central Board of Education."

Possibly this appointment resulted from representations made by the chairman of the board, Dr. William Wyatt, but it signified his undoubted interest in education in this State. He was later elected the first warden of the senate of our university when this was inaugurated in 1874, a position which he held, except for a short period, until his death.

For fifteen years he was a governor of the South Australian Institute as a representative of the subscribers, and a perusal of the reports of this body shows that he took a very active interest in the proceedings. In 1874 he is quoted as saying that he "thought the establishment of a public library and museum was far more important than that of a mere circulating library. A respectable public library of reference, and a room where natural science could be studied with advantage were greatly required".

At this time the South Australian Institute held classes and conducted examinations, and in 1872 the board received official notification of the recognition of the institute examinations by the Royal College of Surgeons of England and by the Council of Medical Education and Registration as being equivalent to their preliminary examinations.

In 1854 Gosse was made a member of the Central Vaccine Board, a visitor of the Adelaide Lunatic Asylum, and a member of the Medical Board of the Province *vice* Dr. Kent, resigned. The next year he was gazetted a justice of the peace.

On January 3, 1856, he was appointed acting colonial surgeon and superintendent of lunatics during the absence on leave of Dr. Nash, and on the resignation of this gentleman in 1857 he was made colonial surgeon and also president of the Medical Board.

The duties of the colonial surgeon were many, and since 1842 included the administration of the Adelaide Hospital and the responsibility for treatment of both in-patients and out-patients. The Lunatic Asylum, gaol and Destitute Asylum also came under his supervision, and numerous other public medical matters needed his attention. The position was a part-time one; indeed it was necessary to have some private practice in order to exist. The first colonial surgeon received a salary of £100 *per annum*. In November, 1858, he resigned as colonial surgeon and was again appointed visitor to the Lunatic Asylum and was also appointed an honorary medical officer at the Adelaide Hospital. This position he resigned after five years, but resumed it again in 1867.

The Adelaide Hospital, when Dr. Gosse first took charge of it, was situated on the eastern side of the botanic gardens, adjacent to the Adelaide Lunatic Asylum. Many of you will remember the former as the old cancer block, and the latter as the infectious diseases block. Dr. Gosse had charge when patients were transferred to the new hospital, the wards of which are still in operation. The daily average of in-patients then was 114, and with a small fluctuating honorary staff which took patients week about, and with twenty-one other permanent members, all the work of caring for the in-patients and out-patients had to be carried on. Besides himself, the permanent staff comprised one house surgeon, a matron, eight nurses, a dispenser and his assistant, a secretary, a cook and seven "O.R.s". In 1864, before a commission to inquire into the management of the Adelaide Hospital, Dr. Gosse stated: "At the time the patients were in the old hospital she [Mrs. Briggs, the matron] had charge of a ward, but in the new hospital I gave her charge of the washing and cleaning of the establishment and of the linen; she was not to interfere with the patients."

For various reasons honorary work at the hospital had ceased, and in further evidence Dr. Gosse was in accord with the majority of medical practitioners that there should be honorary medical officers at the hospital, also giving it as his opinion that these posts should be open to all members of the profession.

In reply to Mr. George Mayo, one of the commissioners, and incidentally the first F.R.C.S. to be registered in the colony (April 1, 1854), Gosse stated: "It is objectionable to have any distinctions such as physicians and surgeons, as here we are all general practitioners. . . . There are no specialists." Among other things the commission found:

It would be desirable that a Medical Board of Supervision to the Hospital should be appointed, and the Commissioners are further of the opinion that no operations except those of the simplest character or in cases of great emergency should be performed without consultation. The Commissioners desire to record their dissent from the opinion expressed by many of the medical witnesses as to the desirability of cases in the Hospital being placed under the charge of members of the medical profession who might voluntarily undertake to attend at the Hospital. Division of responsibility is undesirable—the Adelaide Hospital is a government hospital with a paid medical staff. It is doubtful whether members of the medical profession who enjoy the confidence of the public would be able to spare the time.

In 1867 a hospital committee was appointed which comprised the Medical Board and three lay members:

R. W. Moore, Esq., Colonial Surgeon	Members of Medical Board
W. Wyatt, Esq., M.R.C.S.	
H. Duncan, Esq., M.D.	
G. Mayo, Esq., M.R.C.S.	
J. Philips, Esq., M.R.C.S.	
W. Gosse, Esq., M.R.C.S.	
C. J. F. Boyce, Esq., M.D.	
H. Scott, Esq., F.R.C.S.	
Hon. Thos. Elder, M.L.C.	
Neville Blyth, Esq., M.P.	
Thos. Groves, J.P.	

Dr. Gosse was also appointed with others to be an honorary medical officer at the hospital. He continued in this post until he resigned in 1876, when he was made honorary consulting surgeon. Evidently there was some specialization at this time, and Dr. Gosse had in 1874 registered his degree of M.D. (per examination) of Heidelberg obtained on June 21, 1870, and his diploma of F.R.C.S. London of June 9, 1870.

For health reasons he had made a trip to England in 1870 and had evidently undertaken some post-graduate work during that time. His private practice was conducted in partnership with Dr. Bayer from the time of his resignation of the position of colonial surgeon in 1858 until Dr. Bayer's death in 1866. He then took Dr. Whittell as his partner and they remained together until 1873, when his son Dr. Charles Gosse came from England and joined his father. The Charles Gosse Medal in Ophthalmology commemorates the memory of our first ophthalmologist. Father and son sat together on several boards, including the Council of this Branch of the British Medical Association, Dr. C. Gosse becoming president in 1884.

Another son, Mr. W. C. Gosse, entered the survey department and became deputy surveyor-general. Among his other achievements is his fame as an explorer, and he ranks with Forrest, Giles, Warburton and others who did much in the seventies to add to our knowledge of central Australia. It was William Gosse who discovered and named Ayer's Rock in 1873, in an unsuccessful attempt to reach Perth from a point fifty miles south of Central Mount Sturt.

Another interest of William Gosse was that of public health, and he was made a member of the Central Board of Health when that body was created in 1874, becoming the first chairman. He retained this position until his death.

In 1875 he was a member of the Sanitation Commission. Gosse was very closely concerned with the establishment of the Home of Incurables and was the first chairman of the committee. In 1878 the Board of Management of the Adelaide Hospital resolved:

That this Board beg respectfully to impress upon the government the great importance of establishing a hospital for incurables and ask their hearty cooperation in any efforts that may be made by the outside public toward the attainment of so desirable an undertaking and subsidising liberally any subscriptions that may be raised.

Two years later *The Register* of September 23, 1880, reported that:

The ceremony of laying the foundation stone of the Home of Incurables at Fullarton was performed by Lady Jervois, the Patroness, on Wednesday, September 22nd. Proceedings passed off with great éclat. Speeches were delivered by Dr. W. Gosse, J.P. (The Chairman of the Committee) and His Honor Mr. Chief Justice Way.

For twenty years he was connected with the Australian Mutual Provident Society and was its first medical officer in South Australia. It was partially owing to his exertions that the society was enabled to appoint a local board, of which he at once became a member and remained so until his death.

The last meeting of the British Medical Association that he attended was on October 26, 1882, when he explained at length the new Vaccination Act and its regulations, defending them against the criticism of Dr. T. W. Corbin.

The next minute concerning him appears on August 30, 1883, when the president, Dr. William Gardner, reported that a letter had been sent expressing the deep sympathy felt by the members for Mrs. Gosse in her recent bereavement. The letter also referred to the great loss the profession had sustained in his death.

William Gosse died on Saturday, July 21, 1883. "His death", states the *Advertiser*, "appears to have been the result of old age, he having reached the full term allotted to human existence." His remains were interred in the North Road Cemetery, the funeral procession consisting of "no less than eighty vehicles including that of His Excellency the Governor" and those of representatives of the profession and of the many bodies with which he was associated.

Obituaries published in the *Register* and *Advertiser*, as well as in the weekly publications, refer to his kindness and benevolence, to his courtesy and his ability. Sermons were preached in several churches paying tribute to these qualities, and that delivered by the Reverend R. Reid at Trinity Church alluded to his long connexion with that church, of which for many years he was a synodman, taking a lively interest in church matters.

So passed our first president, a pioneer colonist with the spirit of adventure, a citizen with an acute sensibility of his public duty, a man of great intellectual attainments and diverse interests, one eager to participate in cultural and charitable movements, and withal a courteous, kindly gentleman.

As he was one of the men of mark in medicine in this State, I trust that this brief recital of the life of Dr. William Gosse has been of interest to you.

In conclusion I wish to thank you for the honour you paid to me two years ago in electing me to this position, and for the confidence your Council showed in appointing me for a further term. Without the loyal support of the Council and the ready assistance they have afforded me, this second year would at times have proved too burdensome, and I desire to thank all the members for their aid and comfort. I should like especially to place on record my appreciation of the work of the secretariat. Members of the Association are indeed well served by Mr. Dobbie and Mr. Ladyman, and I, as well as other presidents and members, owe them a debt of gratitude for the efficient and pleasant manner in which they carry out their duties.

THE INCIDENCE OF BRONCHOGENIC CARCINOMA.¹

By D. L. WILHELM.

From the Department of Pathology, The University of Adelaide, and the Royal Adelaide Hospital.

BRONCHOGENIC CARCINOMA has become recognized as one of the common types of organ cancer since Adler (1912) collected 374 cases from the literature. In the period between 1925 and 1940 especially, numerous reports indicated that primary cancer of the lung was more frequent than had hitherto been considered (Fried, 1925, 1927, 1931, 1935, 1948; Kikuth, 1925; Brunn, 1926; Duguid, 1927; Bonser, 1928, 1934, 1938; Simpson, 1929; Karsner and Saphir, 1930; Maxwell, 1930; Rosahn, 1930, 1940; Passey and Holmes, 1935; Kennaway and Kennaway, 1936; Harvey, 1936; Frissell and Knox, 1937; Simons, 1937; Fabris, 1938; Klotz, 1938; Dick, 1940; Peery, 1940; Steiner, 1944; Willis, 1948).

According to Steiner (1944) opinions concerning this increase can be divided into four groups, as follows: (i) that the increase is real (Rosahn, 1940; Harvey, 1936; Maxwell and Nicholson, 1930; Simpson, 1929; White and co-workers, 1933); (ii) that there has probably not been a true increase (Fried, 1931; Jaffe, 1935; Harbitz, 1937; Weller, 1929; Hruby and Sweany, 1932); (iii) that the increase has been both real and apparent (Matz, 1938;

Halpert, 1941; Husted and Biilmann, 1937; Tripoli and Holland, 1940); (iv) that the available data are inconclusive (Kennaway and Kennaway, 1936; Bonser, 1938; El-Gazayerli, 1936; Frissell and Knox, 1937; Stein and Joslin, 1938). Steiner (1944) himself considered that in 5515 autopsies performed at the University of Chicago from 1902 to 1941 "a slight apparent but no real increase in primary carcinoma of the lung" occurred.

This study of a series of cases at the Royal Adelaide Hospital for the years 1929 to 1948 was undertaken partly in an attempt to answer two questions concerning the incidence of bronchogenic carcinoma: (i) Is the "increased incidence" at autopsy and in the admissions to the Royal Adelaide Hospital wards, for the twenty-year period 1929 to 1948 inclusive, real or apparent? (ii) How does the incidence of bronchogenic carcinoma at autopsy at the Royal Adelaide Hospital compare with the incidence in other countries?

The subject will be considered from the following aspects:

1. Incidence at autopsy for 7000 post-mortem examinations, 1920 to 1948 inclusive: (i) of all carcinoma, (ii) of bronchogenic carcinoma, (iii) of cancer of six control organs—namely (a) stomach, (b) colon and rectum, (c) breast, (d) uterus, (e) prostate, (f) oesophagus.
2. Incidence at autopsy for five-year periods 1929 to 1948 inclusive: (i) of all carcinoma, (ii) of bronchogenic carcinoma, (iii) of cancer of the same six control organs.
3. Clinical incidence for five-year periods 1929 to 1948 inclusive: (i) of all primary malignant disease, (ii) of primary malignant disease of the lung, (iii) of primary malignant disease of the same six control organs.
4. Relation of clinical to autopsy incidence of bronchogenic carcinoma and cancer of the six control organs.
5. Relation between hospital admissions, deaths and autopsies.

The Incidence at Autopsy for 7000 Post-Mortem Examinations of All Carcinoma, of Bronchogenic Carcinoma and of Carcinoma of Six Control Organs.

The autopsy incidence of bronchogenic carcinoma and of six control groups of carcinoma (stomach, colon and rectum, prostate, oesophagus, breast and uterus), and the total number of cases in which carcinoma was found in 7000 autopsies, are shown in Figure 1. (The above-mentioned control groups were chosen because, according to figures quoted by Barnard and Robb-Smith (1945) from the office of the Registrar-General of Great Britain for cancer of different sites during the period 1931 to 1940, as standardized death rates per million, cancer of the above-mentioned six organs was most common.)

Concerning the incidence of cancer in the control organs at autopsy, Figure 1 shows that cancer of the stomach and of the large bowel has become less frequent, especially since the third and fourth thousand autopsies (1929 to 1935); cancer of the prostate, breast and uterus has increased in frequency at autopsy between 1920 and 1948.

Bronchogenic carcinoma has shown a marked and progressive rise in autopsy incidence for the 7000 consecutive post-mortem examinations. The number of autopsy cases of this carcinoma has increased from only two and three cases in the first and second thousands respectively to twenty-eight and thirty cases in the sixth and seventh thousands respectively. Such a rise is too large to be accepted at face value. One other point of interest is that bronchogenic carcinoma has become the most common organ cancer in the seventh thousand of autopsies (1946 to 1948) at the Royal Adelaide Hospital.

The results quoted from this series of 7000 autopsies are so variable, even in the control organs, that one cannot, for reasons which will be shown, single out bronchial cancer from these figures to illustrate a proposed rise in its incidence, despite the sustained increase in its frequency in the last 5000 autopsies (1929 to 1948), and its still more increased incidence during 7000 autopsies (1920 to 1948).

¹ An abridgement with modifications of part of a thesis accepted by the University of Adelaide for the degree of Doctor of Medicine.

The Incidence at Autopsy for Five-Year Periods of All Carcinoma, of Bronchogenic Carcinoma and of Carcinoma of Six Control Organs, 1929 to 1948 Inclusive.

When the annual incidence of carcinoma at autopsy is considered in relation to the total number of autopsies performed, there is a wide range of values from 7.0% (1938) and 7.7% (1930) to 19.8% (1931) and 18.1% (1948). The range of variation is still large when these figures are considered for five-year periods (see Table I), and the results are no more constant when expressed as a percentage of the number of these patients admitted to the hospital wards and showing cancer at autopsy.

At the Royal Adelaide Hospital, bronchogenic carcinoma was found at only 0.59% of all autopsies in the period 1929 to 1933, but has progressively become more frequent, to be found at 2.92% of all autopsies in the period 1944 to 1948 (see Table II). This rise is almost parallel to that found when bronchial carcinoma is considered in terms of all cancer at autopsy (4.1% to 18.3%), but the increased incidence is most pronounced when expressed as a percentage of the admissions to hospital (0.013% to 0.076%).

Recent autopsy series which have been reported from individual institutions (see Table III) give results which are close to those of this series (see Table II), in which bronchogenic carcinoma was found at 1.96% of all autopsies and represented 13.8% of all cancers found at autopsy. The results reported in the collected cases of Brunn (1926), Rosahn (1930), Hruby and Sweany (1933), Menne and Anderson (1941) and Steiner (1944) give lower results (see Table IV).

A useful analysis of "intrathoracic cancer" was published from Leeds by Bonser (1934). Her results do not show constancy for the incidence of such intrathoracic cancer as a fraction of all autopsies or as a percentage of all cancer at autopsy, but the results are remarkably constant when expressed as a percentage of hospital admissions.

Despite the fact that the percentage of all cancers found at autopsy from cases of bronchogenic carcinoma at the Royal Adelaide Hospital between 1939 and 1948 was more than double the corresponding figures (4.95% to 8.27%) reported by Bonser (1934) at Leeds, the percentage for bronchial cancer of hospital admissions during the years from 1939 to 1948 is similar to that at Leeds between 1893 and 1932.

The incidence of carcinoma of the stomach, colon and rectum, prostate, oesophagus, breast and uterus has been considered elsewhere (Wilhelm, 1950) in detail for five-year periods. Table V shows a summary of these results for twenty years; but it has been found that the incidence of organ cancer is least constant when expressed as a percentage of all autopsies performed, and that it is more constant as an expression of hospital admissions than as a percentage of all cancers seen at autopsy. Although the incidence of bronchogenic carcinoma in relation to all cancer found at autopsy, in five-year periods from 1929 to 1948 inclusive, increased from 4.1% (1929 to 1933) or even 10% (1934 to 1948) to 17.4% (1939 to 1943) and 18.3% (1944 to 1948), and the autopsy incidence of bronchial cancer as a proportion of hospital admissions increased almost six times, it was found that uterine carcinoma has become four to six times more

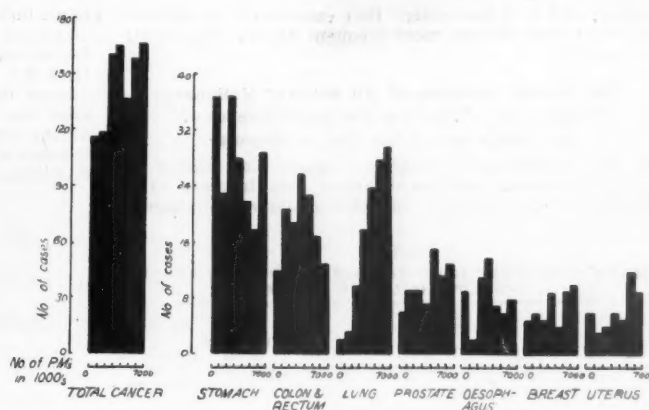


FIGURE I.

Incidence of bronchogenic carcinoma and of carcinoma of six control organs found in consecutive thousands of autopsies up to 7000 (1920 to 1948, inclusive).

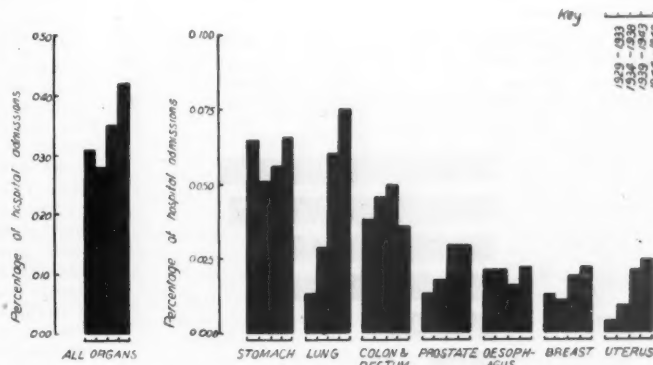


FIGURE II.

Incidence of bronchogenic carcinoma and cancer of six control organs at autopsy for five-year periods between 1929 and 1948, inclusive, as a percentage of hospital admissions.

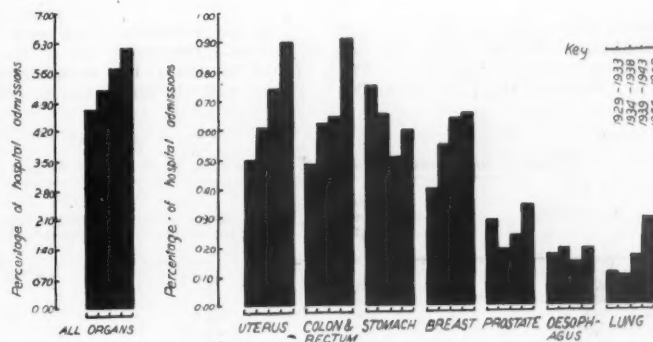


FIGURE III.

Incidence of primary malignant disease of the lungs and of six control organs as diagnosed among patients admitted to hospital for five-year periods between 1929 and 1948, inclusive, as a percentage of hospital admissions.

common, and to a less extent that cancers of the prostate and breast have become more frequent during this twenty-year period.

The Clinical Incidence of All Primary Malignant Disease, and of Primary Malignant Disease of the Lungs and of Six Control Organs.

If the incidence of bronchial cancer had shown an absolute increase, one would expect this increase to be reflected in the incidence of total malignant disease in

to an increase in the number of cases of malignant disease diagnosed among the female patients admitted to hospital, for whom the figure has risen from 4.02% (1929 to 1933) to 6.49% (1944 to 1948). The incidence of malignant disease diagnosed among male subjects admitted to hospital has shown a slight rise, but only from 6% to 9% during the four five-year periods under consideration. This is small when one considers the improvements in diagnostic facilities which have been made during these two decades.

TABLE I.
Incidence of all Carcinoma at Autopsy at the Royal Adelaide Hospital in Five-Year Periods from 1929 to 1948 Inclusive.

Period.	Total Number of Autopsies.	Male Subjects.	Female Subjects.	Percentage of all Autopsies.	Percentage of Admissions to Hospital.
1929 to 1933	147	103	44	14.4	0.307
1934 to 1938	160	93	67	13.7	0.282
1939 to 1943	219	147	72	12.5	0.350
1944 to 1948 ¹	290	191	99	16.0	0.418
Total	816	534	282	14.2	0.345

¹ These figures are approximate.

males, because bronchogenic carcinoma is predominantly a disease of the male sex. Table VI shows the incidence of malignant disease which has been diagnosed in ward patients at the Royal Adelaide Hospital during the period

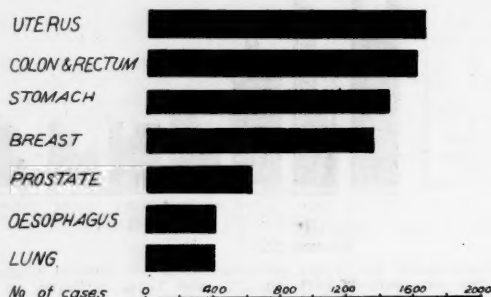


FIGURE IV.
Organ distribution of malignant disease as diagnosed among patients admitted to hospital in the years 1929 to 1948, inclusive.

1929 to 1948 inclusive. For five-year periods the incidence of malignant disease among the total in-patient admissions has progressively risen from 4.76% (1929 to 1933) to 6.2% (1944 to 1948); but this rise is almost entirely due

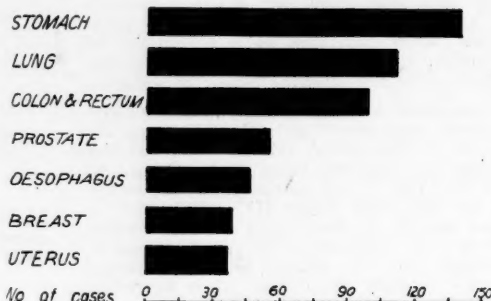


FIGURE V.
Organ distribution of cancer found at autopsy for the years 1929 to 1948, inclusive.

For bronchogenic carcinoma the reverse is true. The incidence of primary pulmonary malignant disease as diagnosed among male subjects admitted to hospital has been quadrupled for the period 1944 to 1948, against the first two periods 1929 to 1933 and 1934 to 1943; but the female incidence of diagnosed primary malignant disease of the lungs has remained constant in these two decades (see Table VII).

In the first decade (1929 to 1938) only about 0.1% of the total number of subjects admitted to hospital were diagnosed as suffering from pulmonary malignant disease; but this figure rose to 0.17% in the period 1939 to 1943, and to almost 0.3% during the period 1944 to 1948. This increase is confined to males, for whom the values rise still more sharply, being 0.11%, 0.12%, 0.23% and 0.49% respectively for five-year periods. Consequently one would expect to find more cases of bronchogenic carcinoma at autopsy, as this disease is obviously being brought to notice more frequently in clinical diagnosis (whether or not the increased incidence of bronchogenic carcinoma is real or apparent).

The increase in diagnosed primary malignant disease of the lungs has steadily risen from the first decade during the succeeding two five-year periods, but there is a decided increase for malignant disease of the colon and rectum and of the uterus (see Figure III). Further, in the last five-year period, from 1944 to 1948, primary malignant disease has been diagnosed more frequently than for the lungs in all of the control organs under consideration except the oesophagus (that is, the uterus, colon and rectum, stomach, breast and prostate, in that order of frequency).

TABLE II.
Incidence of Bronchogenic Carcinoma at Autopsy at the Royal Adelaide Hospital in Five-Year Periods from 1929 to 1948 Inclusive.

Period.	Total Number of Autopsies.	Male Subjects.	Female Subjects.	Percentage of all Autopsies.	Percentage of All Cancers at Autopsy.	Percentage of Admissions to Hospital.
1929 to 1933	6	5	1	0.59	4.1	0.013
1934 to 1938	16	11	5	1.37	10.0	0.028
1939 to 1943	38	33	5	2.16	17.4	0.061
1944 to 1948 ¹	53	49	4	2.92	18.3	0.076
Total	113	98	15	1.96	13.8	0.048

¹ These figures are approximate.

TABLE III.
Autopsy Incidence of Bronchogenic Carcinoma According to Various Authors.

Author.	City.	Years.	Number of Autopsies.	Number of Cases of Bronchogenic Carcinoma.	Percentage of Total Autopsies.	Percentage of Total Cancer at Autopsy.
Jaffe and Sternberg (1921)	Vienna.	1915 to 1918	4500	—	—	10.73
Jaffe (1935)	Chicago.	1923 to 1934.	8800	871	—	11.47
Fabris (1938)	Venice.	—	10,000	150	1.5	—
Klotz (1938)	Toronto.	1927 to 1936	—	—	1.17	17.0
Rosahn (1940)	Yale.	1917 to 1937	4156	—	—	7.4 ¹
Halpert (1941)	New Orleans.	1931 to 1940	8862	135	1.52	11.0 ²
Steiner (1944)	Chicago.	1902 to 1941	5515	126	2.3	10.3
Present series at Royal Adelaide Hospital ..	Adelaide.	1929 to 1948	7000	113	1.66	13.8

¹ 1917 to 1927.² 1927 to 1937.

The incidence of diagnosed malignant disease among hospital patients has also risen for the breast but decreased for the stomach, and remained approximately constant for the prostate and the œsophagus.

Relation of Clinical to Autopsy Incidence of Bronchogenic Carcinoma and of Carcinoma of the Six Control Organs.

Figures IV and V and Tables VIII and XI show the order of frequency of occurrence, from 1929 to 1948 inclusive, of malignant disease in different organs as diagnosed in hospital patients, and the incidence of carcinoma in the same organs at autopsy. (Although the diagnosed cases among hospital in-patients are expressed as "malignant

TABLE IV.
Autopsy Incidence of Bronchogenic Carcinoma According to Collected Series of Cases by Various Authors.

Author.	Number of Collected Autopsies.	Years.	Number of Cases of Bronchogenic Carcinoma.	Percentage of Total Autopsies.	Percentage of Total Cancer at Autopsy.
Brunn (1926).	608,250	1872 to 1924	718	0.11	—
Rosahn (1930).	249,851	1899 to 1923	—	0.42	4.6
Hruby and Sweeney (1933).	185,434	1897 to 1930	1355	0.73	5.96
Steiner (1944).	93,560	1899 to 1940 (United States)	925	0.99	9.4
Menne and Anderson (1941).	33,945	1920 to 1940 (North America)	517	1.52	—

disease" and the autopsy cases as "carcinoma", the difference between total "carcinoma" and total "malignant disease" for the autopsy cases is small.)

In the series of diagnosed malignant disease among hospital in-patients, malignant disease of the uterus comes first, but is last in the autopsy series. Primary malignant disease of the lung is least frequent in the diagnosed hospital series (being preceded by that of the uterus, the

colon and rectum, the stomach, the breast, the prostate and the œsophagus in that order) whereas primary carcinoma of the lung is second to gastric carcinoma in the autopsy series.

Rosahn (1940) reported the regional distribution of carcinoma observed at autopsy at the Yale University for 1917 to 1937. The same six organs head the list as in this Adelaide series; but the main difference from Rosahn's series is that he found cancer of the large bowel to be more common than both gastric and bronchogenic carcinoma, whereas at the Royal Adelaide Hospital cancer of the large bowel is in third place, behind cancer of the stomach and bronchial cancer respectively.

Fried (1948) found 2066 (31.8%) cases of cancer at 6500 autopsies at the Montefiore Hospital, New York. Although Fried found the organ incidence of cancer at autopsy to affect the large bowel, stomach and lung in that order, the percentages for the organ cancers at autopsy are much higher in his series than in the series reported by Rosahn. This Royal Adelaide Hospital series of 7000 autopsies gives results for the corresponding organs which are intermediate between those of Rosahn (1940) and of Fried (1948) for cancer of the large bowel, stomach and lung respectively.

Still more interesting are the changes which have occurred during five-year periods for in-patient and autopsy incidence respectively of cancer in these organs. ("Cancer" is used here for convenience for the in-patient series in preference to the term "malignant disease" as used in the hospital records.) These changes are summarized in Tables X and XI.

In autopsy statistics concerning the organ incidence of carcinoma, one finds that bronchogenic carcinoma most frequently occurs in third place, especially in recent years, and that it is superseded by cancer of the stomach and cancer of the large bowel (Jaffe, 1935; Klotz, 1938; Boyd, 1930; Rosahn, 1940; Fried, 1948).

In earlier series bronchogenic carcinoma was often placed lower on the list for autopsy cancers—Barron (1924) ranked it sixth, and Rosahn (1930) placed it in fifth position.

The autopsies performed at the Royal Adelaide Hospital seem to place undue emphasis on bronchogenic carcinoma, because it has occupied first place above cancer of the

TABLE V.
Incidence of Carcinoma of Control Organs at Autopsy at the Royal Adelaide Hospital from 1929 to 1948 Inclusive.

Organ.	Male Subjects.	Female Subjects.	Total Subjects.	Percentage of All Autopsies.	Percentage of All Cancer at Autopsy.	Percentage of Admissions to Wards.
Stomach	103	38	141	2.45	17.3	0.060
Colon and rectum	63	37	100	1.74	12.3	0.042
Prostate	56	—	56	0.97	6.9	0.024
Esophagus	36	11	47	0.82	5.8	0.020
Breast	—	39	39	0.68	4.8	0.016
Uterus	—	37	37	0.64	4.8	0.016

TABLE VI.
In-patients Diagnosed as Suffering from Malignant Disease at the Royal Adelaide Hospital in Five-Year Periods from 1929 to 1948 Inclusive.

Years.	Total Cases of Malignant Disease Diagnosed.	Percentage of Total Admissions.	Cases of Malignant Disease Diagnosed Among Males.	Percentage of Male Admissions.	Cases of Malignant Disease Diagnosed Among Females.	Percentage of Female Admissions.
1929 to 1933	2282	4.76	1307	5.52	975	4.02
1934 to 1938	2964	5.21	1552	5.42	1402	4.98
1939 to 1943	3577	5.71	1931	5.86	1646	5.54
1944 to 1948 ¹	4302	6.20	2146	5.93	2156	6.49

¹ These figures are approximate.

stomach and cancer of the large bowel, respectively, in the periods from 1939 to 1943 and 1944 to 1948. Steiner (1944) stated that bronchial carcinoma is rarely found in second place except when cancer of the large bowel is considered separately for colon and rectum; but for the Royal Adelaide Hospital autopsies in the period 1929 to 1948 bronchogenic carcinoma has occupied second place to gastric cancer and has preceded carcinoma of the large bowel in the regional distribution of carcinoma at autopsy. (See Figure V.)

The Relation Between Hospital Admissions, Deaths and Autopsies.

During the twenty-year period from 1929 to 1948 inclusive, 236,725 patients aged twelve years or more were admitted and readmitted to the Royal Adelaide Hospital. Males constituted 51.3% and females 48.7% of this total. This ratio, which slightly favours males, was reasonably constant throughout the twenty years.

The proportion of hospital deaths has shown a steady and progressive increase from 6.86% of admissions in the period 1929 to 1933 to 9.31% in the period 1944 to 1948.

Of 19,364 deaths in the twenty years, only 5759 (29.7%) were followed by autopsy examination. When such a low proportion of subjects are examined *post mortem*, the consequent selection of subjects for autopsy in a teaching institution such as the Royal Adelaide Hospital must lessen the significance of such statistics concerning the incidence of disease from an autopsy series. Although a comparison of the organ distribution of malignant disease as diagnosed amongst hospital patients with the organ distribution of cancer at autopsy shows considerable anomalies, other factors such as diagnosis, treatment and general prognosis must have a considerable bearing on these apparent discrepancies (see Figures IV and V).

The final deductions concerning the incidence of cancer must be based on those cases which are proven at autopsy, and such an autopsy series must include a high proportion of hospital deaths. To what extent this factor has affected the results of other autopsy series is largely guesswork, in the absence of knowledge of how many patients who died in the various institutions were subjected to post-mortem examination; but it is possible in the light of the results in this present series that the relatively low proportion of hospital subjects submitted to autopsy is at least partly, and more probably largely, responsible for the "increase" of the autopsy incidence of this disease in the last twenty years.

In the large literature on the subject there are very few references to the proportions of hospital subjects submitted to autopsy. Hruby and Sweany (1933) stated that in their series of cases nearly 100% of the hospital patients who died from cancer were examined *post mortem*, but only 35% of all hospital patients were subjected to autopsy. The series of 5515 autopsies reported by Steiner (1944) from the University of Chicago clinics between 1902 and 1941 showed a sudden and sustained rise in the incidence of bronchial cancer in 1927, when the annual number of autopsies rose from the previous maximum of 91 to an average of about 300. Steiner stated that the data concerning the total admissions and hospital deaths were not available. However, even if the 300 autopsies which were performed annually after 1927 represented a large proportion of the hospital deaths, the maximum figure of 91 autopsies in one year prior to 1927 probably means that only about one-third of the hospital patients who died were subjected to autopsy between 1902 and 1927.

Kennaway and Kennaway (1936) examined 18,275 death certificates from cases of cancer of the lung and of the larynx in males from England and Wales for the years 1921 to 1932 inclusive. Of 8808 patients who died from cancer of the lung, only 2205 (25%) were examined at autopsy. Further, Kennaway and Kennaway found that the number of autopsies had increased much more in the lung series than in the laryngeal series; for cancer of the lung the average annual number of autopsies for the years 1921, 1922 and 1923 was 48, but in 1932 the number of post-mortem examinations was 436 (a ninefold increase). The corresponding figures for cancer of the larynx were 21 and 80 respectively, which is only a fourfold increase. This emphasizes the interest in and the search for bronchogenic carcinoma which have occurred as clinicians and pathologists have placed this disease in its correct perspective.

Klotz (1938) has pointed out that Passey and Holmes (1935) reviewed the same material as Duguid (1927) had used, and could not support Duguid's contention that a real increase in the incidence of primary carcinoma of the lung had occurred. Duguid was able to confirm only 78 of 195 cases by microscopic examination. Similarly, Frissel and Knox (1937) showed that Rosahn and Fried came to opposite conclusions after using the same statistical material, and Bonser (1929) quoted similar diverging results for the work of Kikuth (1925) and Breckwoldt (1926) who also used the same material.

Passey and Holmes (1935) showed that when the autopsy incidence of cancer of the lung between 1894 and 1928 in

TABLE VII.
In-patients Diagnosed as Suffering from Malignant Disease of the Lungs at the Royal Adelaide Hospital in Five-Year Periods from 1929 to 1948 Inclusive.

Years.	Total Cases.	Percentage of Total Admissions.	Males.	Percentage of Male Admissions.	Females.	Percentage of Female Admissions.
1929 to 1933	49	0.102	27	0.114	22	0.091
1934 to 1938	55	0.097	34	0.119	21	0.075
1939 to 1943	104	0.166	75	0.223	29	0.098
1944 to 1948 ¹	203	0.292	178	0.492	25	0.075
Total	411	0.174	314	0.259	97	0.084

¹ These figures are approximate.

TABLE VIII.

Incidence of Malignant Disease of Various Sites as Diagnosed in the Wards of the Royal Adelaide Hospital for the Twenty-Year Period 1929 to 1948 Inclusive.

Organ.	Total Cases.	Percentage of Total Admissions.	Males.	Percentage of Male Admissions.	Females.	Percentage of Female Admissions.
Uterus	1669	0.705	—	—	1669	1.447
Colon and rectum	1613	0.681	999	0.823	614	0.532
Stomach	1448	0.612	976	0.804	472	0.409
Breast	1355	0.572	30	0.025	1325	1.149
Prostate	634	0.268	634	0.522	—	—
Œsophagus	417	0.176	326	0.269	91	0.079
Lung	411	0.174	314	0.259	97	0.084

15 British medical schools was expressed as a percentage of the total number of hospital admissions instead of as a percentage of the total number of autopsies, the value of 0.04% in the period 1894 to 1898 did not increase to more than 0.05% in the period 1919 to 1923 and to 0.07% in the period 1924 to 1928.

Bonsler (1929) analysed the autopsy records of the General Infirmary at Leeds during the years from 1891 to 1927. The percentage of all hospital patients who died and were subjected to autopsy for this period was over 80 and never fell below 73.8 (1891 to 1892); for five-year periods between 1893 and 1927 inclusive this figure varied between 77.6% and 91.6%. It has been stated earlier how constant Bonsler found the incidence of "intrathoracic cancer" to be as a percentage of hospital admissions at Leeds.

Bonsler stressed that "no note has been found in the literature as to what proportion of cases usually comes to post mortem in other hospitals". This must be a vital point in a consideration of bronchial cancer, because it has become such a frequently important disease in clinical, biopsy and autopsy work. Without the examination of a large proportion of hospital patients at autopsy, one cannot determine whether or not the frequency of this neoplasm has shown an absolute increase.

Conclusions.

The two main reasons for considering the incidence of bronchogenic carcinoma at the Royal Adelaide Hospital have been, firstly, to attempt to determine whether there has been an absolute increase of the incidence of primary carcinoma of the lung, and secondly, to compare this incidence with that in other countries.

Increased Incidence.

1. Bronchogenic carcinoma has shown a decided increase in the Royal Adelaide Hospital autopsies as a percentage of hospital admissions for the twenty-year period 1929 to 1948. Although not so pronounced, there also has been a definite increase in the occurrence of carcinoma of the uterus, prostate and breast at autopsy (see Figure II). Carcinoma of the stomach, large bowel and œsophagus has shown small variations of occurrence, but over-all the incidence has been constant.

2. Clinically, bronchogenic carcinoma has trebled in frequency as a percentage of hospital admissions; but at the Royal Adelaide Hospital there also has been a decided and progressive rise in the incidence of diagnosed malignant disease of the uterus, large bowel and breast. In contrast to the autopsy figures, the incidence of diagnosed

malignant disease of the stomach has decreased and remained constant for the prostate (except to a small extent in the final five years). The incidence of malignant disease of the œsophagus has remained constant clinically as at autopsy.

3. The incidence of all carcinoma at autopsy has steadily increased, but much of this increase is due to the greater frequency with which primary cancer of the lung has been found. Clinically there has been a definite and progressive rise in the incidence of all diagnosed malignant disease, but this rise is almost entirely due to the increased frequency of malignant disease in females; bronchogenic carcinoma predominates in males.

4. With such fluctuations in the autopsy and clinical incidence of organ cancer, one is not justified in singling out bronchogenic cancer as showing an absolute increase in incidence. Until Barnard (1926) and Shennan (1928) showed that the so-called "mediastinal sarcomata" were really anaplastic bronchial carcinomata, the figures concerning intrathoracic or pulmonary carcinoma must have been grossly inaccurate. Naturally, bronchogenic carcinoma has "increased" in frequency, if formerly not all the cases were diagnosed correctly, even at autopsy.

5. There is a large literature concerning the incidence of bronchogenic carcinoma, but very few workers have reported the proportion of hospital patients who are subjected to autopsy in their series of cases; of the few references made to this subject (Hruby and Sweany, 1933; Steiner, 1944), it would seem that about 30% to 35% of persons who die in hospital are subjected to autopsy in most cases. In this series of cases 30% of subjects who died were examined *post mortem*. One cannot accept the statements that bronchogenic carcinoma has become more frequent without autopsy evidence to support such statements, and such evidence is not available when only one-third of patients who die in hospital are being subjected to autopsy. Certainly one cannot find conclusive evidence of such an increase in this twenty-year series of hospital cases, in which 7000 autopsies were largely performed or inspected by one man, and practically all were performed by two men.

6. A conclusive answer to the question of whether or not there has been an absolute increase in the incidence of bronchogenic carcinoma at the Royal Adelaide Hospital cannot be given, because the hospital records for admissions include readmissions for the same disease. But the following must be taken into account: (a) the fluctuations of the autopsy incidence of cancer for all organs and the control

TABLE IX.

Incidence of Carcinoma of Various Sites at Autopsy at the Royal Adelaide Hospital for the Twenty-Year Period 1929 to 1948 Inclusive.

Organ.	Total Number of Autopsies.	Male Subjects.	Female Subjects.	Percentage of All Autopsies.	Percentage of all Cancers at Autopsy.	Percentage of Admissions.
Stomach	141	103	38	2.45	17.3	0.060
Lung	113	98	15	1.96	13.8	0.048
Colon and rectum	100	63	37	1.74	12.3	0.042
Prostate	56	56	—	0.97	6.9	0.024
Œsophagus	47	36	11	0.82	5.8	0.020
Breast	39	—	39	0.68	4.8	0.016
Uterus	37	—	37	0.64	4.8	0.016

TABLE X.

Regional Distribution of Malignant Disease in In-patients at the Royal Adelaide Hospital for Five-Year Periods from 1929 to 1948 Inclusive, Expressed as a Percentage of the Total Incidence of Malignant Disease Diagnosed.

1929 to 1933.		1934 to 1938.		1939 to 1943.		1944 to 1948. ¹	
Stomach	15.6	Stomach	12.5	Uterus	12.9	Colon and rectum ..	14.6
Uterus	10.6	Colon and rectum ..	11.9	Colon and rectum ..	11.3	Uterus	14.5
Colon and rectum ..	10.1	Uterus	11.6	Breast	11.2	Breast	10.6
Breast	8.3	Breast	10.5	Stomach	8.9	Stomach	9.4
Prostate	6.0	Esophagus	3.8	Prostate	4.1	Prostate	5.6
Esophagus	3.6	Prostate	3.7	Lung	2.9	Lung	4.7
Lung	2.2	Lung	1.9	Esophagus	2.5	Esophagus	3.1

¹ These results are approximate.

organs considered; (b) the fluctuations of the incidence of clinically diagnosed malignant disease for the same organs; (c) the inadequate autopsy evidence available because of the relatively low proportion of autopsies on hospital patients in this institution and probably in many other hospitals; (d) the advances in our knowledge of the pathology of bronchogenic carcinoma; (e) the advances in the methods of diagnosis available—for example, radiology, bronchoscopy and biopsy; (f) the advances in public health and hospital facilities available to the public. If these are taken into account, then it is my opinion that the increased incidence of bronchogenic carcinoma is probably relative and apparent.

Comparative Incidence.

1. The large series of autopsy cases of bronchogenic carcinoma collected by Brunn (1926), by Rosahn (1930) and by Hruby and Sweany (1933) showed a lower evidence of bronchial cancer as a percentage of either the total autopsies or of total cancer at autopsy; but the more recent collected series of Menne and Anderson (1941) and of Steiner (1944) give results which approach those in the present series at the Royal Adelaide Hospital (see Table IV).

2. The most recently published autopsy series are those of Halpert (1941) and Steiner (1944) (see Table III). The present Royal Adelaide Hospital series is intermediate in position between that of Halpert and that of Steiner when the percentage of total autopsies which disclose bronchogenic carcinoma is considered. For the percentage of total cancer at autopsy, the present series shows a value of 13.8% of bronchial carcinoma; this is a greater value than that reported by any of the workers to whom I have referred.

3. It has been stated earlier that emphasis seems to have been placed on the autopsy incidence of bronchogenic carcinoma in this series of cases, when the organ incidence of carcinoma at autopsy is considered. Jaffe (1935), Klotz (1938), Boyd (1930), Rosahn (1940) and Fried (1948) all ranked bronchogenic carcinoma in third place at autopsy behind cancer of the stomach and cancer of the large bowel. In this series, bronchial cancer occupies second position behind gastric carcinoma.

4. Bonser found that the percentage for bronchial cancer of hospital admissions between the years 1893 and 1932 at Leeds was similar to the figures at the Royal Adelaide Hospital for the years 1939 to 1948.

5. In conclusion, bronchogenic carcinoma at the Royal Adelaide Hospital for the years 1929 to 1948 has had an

incidence parallel with bronchial cancer in other countries. It has been more frequent at the Royal Adelaide Hospital than elsewhere in relation to all cancer seen at autopsy, but as a percentage of the total autopsies performed, or as a percentage of hospital admissions, our results correspond with overseas figures.

Summary.

1. The incidence of bronchogenic carcinoma at the Royal Adelaide Hospital for the twenty-year period from 1929 to 1948 inclusive has been studied.

2. For primary cancer of the lungs and of six control organs in 7000 consecutive autopsies during the years 1929 to 1948 inclusive, bronchogenic carcinoma has shown a pronounced rise in incidence, and carcinoma of the prostate, breast and uterus less so. Carcinoma of the esophagus has remained constant in occurrence, and cancer of the stomach and of the colon and rectum has become less frequent.

3. When this autopsy series is considered in five-year periods for the years 1929 to 1948 inclusive, there is still a pronounced rise in the incidence of bronchogenic carcinoma and a less pronounced rise in that of cancer of the uterus, prostate and breast. Carcinoma of the stomach, of the colon and rectum, and of the esophagus has remained constant in occurrence.

4. The incidence of organ cancer at autopsy is best considered as a percentage of hospital admissions; of other methods of considering organ cancer at autopsy, the expression as a percentage of all cancer at autopsy is better than expression as a percentage of the total number of autopsies performed.

5. The incidence of primary malignant disease of the lung and of the same six control organs, as diagnosed in hospital admissions for the years 1929 to 1948 inclusive, shows a pronounced rise for cancer of the uterus, colon and rectum, and lung, and less so for breast. Diagnosed malignant disease has been of constant occurrence for esophagus and prostate, and the incidence has fallen for cancer of the stomach.

6. At autopsy the organ distribution in descending order of frequency has been stomach, lung, colon and rectum, prostate, esophagus, breast and uterus. Clinically the order has been uterus, colon and rectum, stomach, breast, prostate, esophagus and lung.

7. For the organs under consideration, bronchial cancer has risen at autopsy from fourth place (1929 to 1933) to

TABLE XI.

Regional Distribution of Cancer at Autopsy at the Royal Adelaide Hospital for Five-Year Periods 1929 to 1948 Inclusive, Expressed as a Percentage of Total Autopsy Cancer.

1929 to 1933.		1934 to 1938.		1939 to 1943.		1944 to 1948.	
Stomach	21.1	Stomach	18.1	Lung	17.4	Lung	18.3
Colon and rectum ..	12.2	Colon and rectum ..	16.3	Stomach	16.0	Stomach	15.9
Esophagus	6.8	Lung	10.0	Colon and rectum ..	14.2	Colon and rectum ..	8.6
Lung	4.1	Esophagus	7.5	Prostate	8.7	Prostate	7.2
Breast	4.1	Prostate	6.3	Uterus	5.9	Uterus	5.9
Prostate	4.1	Breast	3.8	Breast	5.5	Breast	5.2
Uterus	1.4	Uterus	3.1	Esophagus	4.6	Esophagus	5.2

top position (1944 to 1948), while clinically it has risen only from seventh (1929 to 1938) to sixth position (1939 to 1948) over carcinoma of the oesophagus.

8. The clinical incidence of total malignant disease in males as a percentage of hospital admissions during the years 1929 to 1948 has been constant.

9. Between the years 1929 and 1948, inclusive, 236,725 persons were admitted and readmitted to the Royal Adelaide Hospital; of these persons, 51.3% were males. In that time there were 19,364 deaths (8.18% of the total admissions), and of these fatal cases only 5759 subjects (29.7%) were submitted for autopsy.

10. The incidence of bronchogenic carcinoma at the Royal Adelaide Hospital shows a greater incidence relative to total cancer found at autopsy than in other published series; otherwise the incidence is on a par with that in other countries.

11. From the information available a definite answer cannot be given to the question of whether or not a real and absolute increase of the incidence of bronchogenic carcinoma has occurred. The available evidence suggests that for this series of cases at the Royal Adelaide Hospital, this increase is relative and apparent.

Acknowledgements.

I am indebted to the Board of the Royal Adelaide Hospital for permission to examine the relevant pathological specimens and clinical case notes, and to the members of the honorary medical staff who attended these patients. My thanks are due to Professor J. B. Cleland and Professor J. S. Robertson, of the Department of Pathology, University of Adelaide, for their assistance in preparing this work; I especially wish to acknowledge the constant help and criticism which Professor Robertson has given me. I also wish to thank Mr. W. G. Wilhelm for drawing the block graphs and for his assistance in sorting the clinical case notes; and Misses B. Christie, N. Ramsey, A. McCarthy and A. McNamara for their secretarial assistance in preparing this article. The autopsy incidence of carcinoma has been compiled chiefly from "The Medical and Scientific Archives of the Royal Adelaide Hospital".

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A TUBERCULOSIS SURVEY OF NORFOLK ISLAND.

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NORFOLK ISLAND, a territory of the Commonwealth of Australia since 1914, is a small semi-tropical island approximately five miles long and three miles wide and embracing an area of thirteen and a quarter square miles. It is situated about 1000 miles east-north-east of Sydney and roughly on the same latitude as Brisbane. It has a permanent population of just under 1000 persons, the last accurate figures available being those of a census of June 30, 1947, when the total population was 938. This number is augmented during the greater part of the year by visitors from New Zealand and Australia. The permanent population consists of two groups of persons—"Islanders" and "Mainlanders".

The "Islanders" are descendants of the mutineers of the "Bounty" and moved from Pitcairn to Norfolk Island in 1856. They show traces of the Tahitian strain in their ancestry, being predominantly dark-skinned with dark hair and eyes. Amongst themselves they employ a dialect which is a mixture of West Country English and Tahitian.

The "Mainlanders" are recent arrivals, predominantly of English descent, who have settled on Norfolk Island since 1925. If one includes the semi-permanent staff of the Department of Works and Housing and of the Department of Civil Aviation, there would appear to be almost as many "Mainlanders" as "Islanders" on Norfolk Island.

In July, 1950, the Department of External Territories forwarded to the Commonwealth Department of Health a memorandum from the Administrator of Norfolk Island asking whether any preventive measures against tuberculosis could be taken, as during the previous two years there had been a number of deaths from tuberculosis. Vital statistics from Norfolk Island show that from December, 1937, to April, 1950, eleven deaths were notified as attributable to tuberculosis, and all except one (from osteitis of the femur) were recorded as due to pulmonary tuberculosis. This suggests a higher tuberculosis mortality rate than obtains in this country.

Consideration was then given to the best method of ascertaining the extent of tuberculous infection of the population on Norfolk Island and the preventive measures to be taken. A mass X-ray survey of the entire population would have been the simplest solution to the problem and would have isolated any patients with pathological changes in their lungs; but it would have provided no information as to the rate of tuberculous infection. Moreover, if one wished to use B.C.G. vaccination as a preventive measure, the group of persons aged under thirty-five years would have to be subjected to a Mantoux test, so it was decided to apply a tuberculin test to everyone first and to radiograph the chests of positive reactors only.

As it was considered that the X-ray plant in use on Norfolk Island was not sufficiently powerful to take satisfactory chest radiographs for a survey of this nature, arrangements were made to send by air freight to Norfolk Island a "Stanford Portable" 85 kilovolt 30 milliampere unit.

The survey was commenced on November 6 and took six weeks to complete. Information about the survey was spread through the medium of the *Government Gazette*, through the weekly news sheet "Norfolk Island News Edition", and by short cinematographic film features which were shown at the weekly picture show. Letters were sent to parents and guardians requesting permission to carry out skin tests on their children and subsequently to vaccinate them with B.C.G. vaccine.

Results.

The results of tuberculin tests on 904 persons residing on Norfolk Island are tabulated according to age in Table I. Except for children aged under five years, all persons

received an intradermal injection of 0.1 millilitre of one in 1000 old tuberculin (Commonwealth Serum Laboratories). Children aged under five years received a tuberculin jelly patch test (Allen and Hanburys) applied to the back between the shoulder blades after the area had been cleaned with acetone and lightly abraded with fine sandpaper.

As can be seen from the table, no child under five gave a positive response to the tuberculin test, and only three out of 83 in the age group five to nine years. This gives a 3.6% of positive reactors in the five to nine years age group, which is only slightly higher than that found on the Australian mainland by Kerr at Bendigo in 1947 (2.6%) and in the Australian Capital Territory in 1949 (2.4%).

In the next five-year age group there is a marked rise in the rate of tuberculous infection, with 30% of the children giving a positive reaction to the Mantoux test. This is a much higher percentage of positive reactors than was found in this age group in the Australian Capital Territory in 1949 (5.9%). The percentage of positive reactors to the tuberculin test is higher in the later age groups also than that found on the Australian mainland (see Figure I).

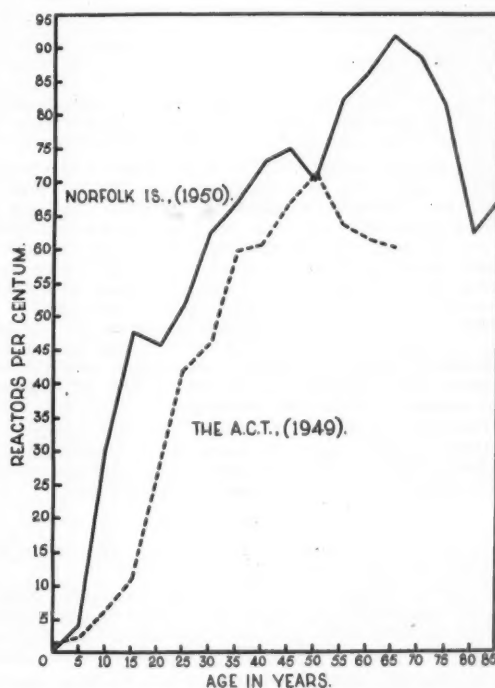


FIGURE I.

A comparison of the extent of tuberculosis infection in the population of the Australian Capital Territory (1949) and in that of Norfolk Island (1950).

The statistical significance of the difference between the percentage of positive reactors in the various age groups as found on Norfolk Island and the Australian Capital Territory and Queanbeyan was evaluated by determining the standard error of the difference according to the following formula:

Standard error of the difference = $\sqrt{\sigma_A^2 + \sigma_B^2}$
where σ = standard error, A = Norfolk Island, B = Australian Capital Territory and Queanbeyan, and

$\sigma = \sqrt{\frac{P(100-P)}{N}}$ where P = percentage of positive reactors and N = number tested.

When the difference in percentages (A-B) is more than twice the standard error, the difference is probably significant and not due to mere chance.

TABLE I.
Results of Mantoux Tests on 904 Persons Residing on Norfolk Island.

Age Group.	Mantoux Test Result.					Total Number Tested.	Percentage of Positive Reactors.
	Negative Result.	Positive.					
		" + "	" + + "	" + + + "	" + + + + "		
3 months to 4 years ..	90	—	—	—	—	90	0
5 to 9 years	80	1	2	—	—	83	3.6
10 to 14 years	43	10	7	2	—	62	30.6
15 to 19 years	25	10	8	1	1	45	44.4
20 to 24 years	27	4	12	5	—	48	43.8
25 to 29 years	37	8	16	11	4	76	51.3
30 to 34 years	26	8	13	10	7	64	59.4
35 to 39 years	22	7	16	5	13	63	65.1
40 to 44 years	19	6	14	12	16	67	71.7
45 to 49 years	16	4	23	10	9	62	74.2
50 to 54 years	17	1	20	15	6	59	71.2
55 to 59 years	9	4	18	9	10	50	82.0
60 to 64 years	7	5	20	4	7	43	83.7
65 to 69 years	3	3	25	2	4	37	91.9
70 to 74 years	3	3	12	6	4	28	89.3
75 to 79 years	3	2	9	2	—	16	81.3
80 to 84 years	3	—	5	—	—	8	62.5
85 to 90 years	1	—	1	1	—	3	66.7
Total						904	

If this criterion is used, the difference in percentages in the ten to fourteen, fifteen to nineteen and twenty to twenty-four years age groups is statistically significant.

These figures suggest that there has been in the past a relatively high rate of tuberculous infection on Norfolk Island, but that the number of infectious patients is diminishing, as children under ten years have a reasonably low rate of infection. If one compares the percentage of children aged under five years (0%) and those aged between five and nine years (3.6%) infected with tuberculosis with figures obtained by J. P. van Leent and P. F. Hopkins from a survey of migrant children in Australia (0 to four years, 19.3% positive reactors, and five to nine years, 38.7% positive reactors), one realizes that the risk of tuberculous infection on Norfolk Island is relatively slight compared with that prevailing in Europe.

In addition to these 904 persons Mantoux-tested, there were five persons known to react to the tuberculin test, and they, as well as 27 other persons, were radiographically examined without a preliminary tuberculin test.

Radiographic Results.

A total of 508 radiographs of the chest were taken and the results are listed below.

The three children aged under ten years who gave a positive response to the tuberculin test had no abnormality detected in their lungs, and investigation of their families revealed no case of diagnosed or undiagnosed tuberculosis.

A further 436 persons had radiographic findings reported on as being within normal limits.

Eight persons had radiographic evidence of old pleurisy, and in most cases a history of this disease was given.

Sixteen persons gave X-ray evidence of a typical healed primary tuberculous lesion, with a calcified Ghon focus in the lung and calcification in the associated hilar glands.

Eighteen persons had fibrotic or calcified lesions in the lung, probably evidence of old inactive tuberculosis, and these people are to be followed with regular radiographic examinations.

In 13 persons—mostly elderly—the heart shadow was enlarged beyond normal limits, and one case of congestive cardiac failure was diagnosed. There were two persons in whom the radiographic appearance of the lungs suggested bronchiectasis, and in one case this diagnosis was confirmed.

No mention has been made of other abnormalities of the ribs, spine *et cetera*. These were noted but no action was taken.

Nine persons had radiographic shadows the significance of which was doubtful, and they were investigated clinically and by examination of smears and cultural examination of sputum for *Mycobacterium tuberculosis*. Three other persons with radiographic lesions were known to have had tuberculosis, and an attempt was made to assess the status of their lesions.

Examination of a sputum smear from a young married woman (M.F.), a "Mainlander", revealed numerous tubercle bacilli and as she was clinically ill she returned immediately to the mainland for treatment.

The results of culture of several specimens of sputum from each of these 12 cases were negative, but this was probably due to the fact that the specimens were delayed by the Customs and were a week old before they reached the laboratory.

However, in spite of these negative cultural results, further clinical and radiological examinations in February, 1951, revealed extension of lesions in three patients who were then diagnosed as suffering from active pulmonary tuberculosis, and for whom treatment was advised.

CASE I.—A.A., a thin, elderly, "Island" woman, aged sixty-nine years, with areas of consolidation in the upper zone of the left lung, a fibrotic lesion in the apex of the right lung and fibrosis in the remainder of both lungs on December 6, 1950, was thought to have some slight extension of the lesion in the sub-apex of the left lung on February 21, 1951, and a course of PAS tablets, 12 grammes daily, was advised in an endeavour to render her non-infectious.

CASE II.—L.D., a symptomless New Zealand male, aged twenty-five years, had a history of hæmoptyses in 1947, and of having a condition diagnosed as "a spot on the lung" in January, 1950, when he had two months' rest in bed at home. A radiograph on February 21, 1951, showed evidence of considerable extension of the lesion in the left supapical region, where there is now a large area of consolidation. His admission to a sanatorium was recommended.

CASE III.—M.C., an island housewife, aged forty years, had a history of loss of energy and pleuritic pains of twelve months' duration; an X-ray film revealed an area of soft infiltration in the second left intercostal space anteriorly, within which there was the suggestion of a cavity the size of sixpence. Sanatorium treatment was advised.

In these three instances active tuberculosis was diagnosed, although in none has the diagnosis been confirmed by culture of *Mycobacterium tuberculosis* from sputum or gastric washings.

Two persons commonly believed to have tuberculosis had radiographs within normal limits, which unexpected result was very gratifying.

B.C.G. Vaccination.

Owing to the infrequent air service to Norfolk Island, which operates only on alternate Thursdays, the B.C.G. vaccine when it arrived from Melbourne was eight days old, and nine days old when it was used, and as the potency of B.C.G. vaccine falls off sharply after the sixth or seventh day, a special double-strength vaccine was prepared with one milligramme per millilitre instead of the usual 0.5 milligramme per millilitre.

In November and December, 1950, 330 persons were vaccinated with 0.1 millilitre of double strength B.C.G. vaccine (batches 136 and 138, Commonwealth Serum Laboratories) injected into the skin over the deltoid region.

Further Mantoux tests of 257 of the 330 persons were carried out in February, 1951—ten to twelve weeks after vaccination. Old tuberculin (0.1 millilitre of one in 1000 strength) injected intradermally was given to all persons of five years of age or older. Children aged under five years received a second tuberculin jelly patch test, and it was found that good and unequivocal results were given in all cases. Of these subjects 243 gave positive reactions and 11 failed to react to the intradermal injection of 0.1 millilitre of one in 1000 strength old tuberculin. Three reactions were recorded as doubtful, as the persons concerned did not report for reading of the result until a week or more had elapsed from the time the injection was given.

A further 30 persons were B.C.G. vaccinated in February, including eight persons who failed to convert their response to positive after the first injection.

Tuberculin Testing of Cattle.

As a report from a relieving medical officer had suggested the possibility of disease due to bovine tuberculosis existing on Norfolk Island, several hundred of the most accessible cattle on the island were tuberculin tested by a veterinary officer resident on the island.

As only two of the cattle gave a weakly positive response to the tuberculin test and were shown at post-mortem examination to be free of active tuberculous lesions, no attempt was made to tuberculin test cattle in remote and less accessible parts of the island.

Clinically no children were seen with glandular enlargement arousing suspicion of infection by the bovine tubercle bacillus.

Summary.

As there was evidence of a higher tuberculosis mortality rate on Norfolk Island than obtains on the Australian mainland, a tuberculosis survey of Norfolk Island was begun on November 6, 1950.

A total of 936 persons were included in the survey, of whom 904 were subjected to a Mantoux test. The percentage of positive reactors, except in the under ten years age group, was somewhat higher than that found in provincial cities in Australia. The higher percentage in the ten to fourteen, fifteen to nineteen and twenty to twenty-four years age groups is statistically significant and not due to chance.

Five hundred and eight persons were radiologically examined, and of these 12 are being investigated to ascertain the nature and activity, if any, of shadows seen in their lungs. As the result of sputum examinations and follow-up radiographs, four persons—two "Mainlanders" and two "Islanders"—were diagnosed as having active tuberculosis requiring treatment.

Three hundred and fifty-two persons were vaccinated with double strength B.C.G. vaccine obtained from the Commonwealth Serum Laboratories with a 95.7% conversion rate amongst the 257 persons receiving a further tuberculin test.

Conclusions.

1. Results of tuberculin tests of approximately 90% of the permanent population of Norfolk Island show that the rate of tuberculous infection has been high, but that it is on the wane, as judged by the small number of positive child reactors aged under ten years.

2. The mixture of European and native races in the "Islanders" has not resulted in any particular susceptibility to tuberculosis. Of the 12 persons under investigation, two of the four persons diagnosed as having active tuberculosis are "Mainlanders" and two are "Islanders".

3. Although it would be theoretically possible to isolate all infective subjects of tuberculosis found on Norfolk Island and hence to eliminate the possibility of any further tuberculous infection, there is always the hazard of visitors and tourists suffering from diagnosed or undiagnosed "open" tuberculosis. Hence it was considered advisable to vaccinate with B.C.G. vaccine the non-reactors in the community—particularly those aged under thirty-five years. It is hoped to carry out a long-term follow-up investigation to observe the value of the vaccine in reducing tuberculous morbidity and mortality.

Acknowledgements.

I am indebted to Mr. D. Grant, radiographer, and to Mrs. M. Gould and Miss M. Hughes for their willing and able assistance, and to the Administrator and residents of Norfolk Island for their interest and cooperation.

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Reports of Cases.

LOUSE-BITE CONJUNCTIVITIS.

By RONALD F. LOWE,
Melbourne.

MRS. F.W., a private patient, was first examined on February 22, 1951. She complained that for a week her left eye had been red and sore. She had been ordered penicillin eye drops by her general practitioner, but the condition seemed to grow worse. Two days previously eye drops of 30% sulphacetamide solution had been prescribed without benefit. She stated that she had had similar trouble two years previously after emptying a kapok pillow. No history of allergic disorders was obtainable. Her health was otherwise very good.

On examination of the patient the right eye appeared normal and was the cause of no symptoms. The left eye showed severe conjunctivitis; the globe was very red, the palpebral conjunctiva was thickened, with follicles enlarged, and the lid edges were red and slightly oedematous. A little mucoid discharge was seen in the lower conjunctival fornix and the eye watered during examination.

The appearances were considered to be those of allergic conjunctivitis, probably due to penicillin used for the treatment of originally infective conjunctivitis. The use of the penicillin and sulphacetamide drops was stopped and mildly astringent drops containing zinc sulphate and "Neo-Synephrine" were ordered. A cure was confidently expected by the next appointment, which was arranged for two weeks later.

At the next visit the patient reported only a little improvement. For a time the eye had felt more comfortable and then had suddenly become very irritable again. The conjunctiva was still very red, the discharge was a little worse and an alternative diagnosis of virus conjunctivitis was considered. Eye drops of aureomycin borate were prescribed for the next two weeks.

When the patient returned she still reported that the left eye was very irritable at times. The conjunctiva seemed no better than at previous examinations, but the disease showed no tendency to spread to the right eye, which remained white and clear. As the appearances still strongly

suggested allergic conjunctivitis, a careful search was made of the lid margins by means of a slit-lamp and corneal microscope to exclude cosmetic products, especially mascara. On the lashes were small globules that resembled dried mucus except that they were all the same size. Between the lashes on the lid edge was a small blood-sucking insect. Examination under a microscope showed it to be a *Pediculus humanus*. The infestation was strictly localized to the lashes of the left upper eyelid. All other eyelids, eyebrows and scalp hair were free. Subsequently the patient reported that her axillae and pubes were free and that no parasites or nits had been found on any other members of her household. She then said that her eye had become sore while she was on holidays, staying at a seaside boarding-house.

"Lorexane" head lotion was prescribed and she was asked to return with some. At the next visit four pediculi were seen on the lid margin. The eyelashes and eyelid were painted with the "Lorexane" head lotion. With the corneal microscope the pediculi were very soon seen to stop moving and to shrivel. Some of the head lotion entered the conjunctival sac, but a drop of "Decicain" solution had been instilled and no irritation occurred.

When the patient was examined a week later she reported that there had been no irritation since the day of the painting and her eye felt normal again. The edema of the lid margins had gone, the eye was white, the palpebral conjunctiva was pale and the follicles had almost disappeared.

Discussion.

The patient suffered from unilateral allergic conjunctivitis following the bites of the insect *Pediculus humanus* along the left upper lid edge. Nits were present on the lashes of only one eyelid, this localized habitat being a peculiar feature of the present case. The incubation period for nits varies according to the temperature but is roughly one week. The larva begins to feed on its host's blood as soon as it emerges. In the skin the bite sets up itching and the appearance of an urticarial weal. Spread from the lid margins produces allergic conjunctivitis. The sudden variations in the intensity of the patient's symptoms can be readily understood.

"Lorexane" head lotion contains 0.2% γ isomer of benzene hexachloride (BHC), which is a powerful insecticide stated to be twenty times as potent as DDT. The head lotion is applied directly to the affected hair and skin and the area is left unwashed for seven to ten days. Any larvae which may subsequently develop from the nits are then destroyed. One painting of the lotion effected a rapid cure in the present case.

CONGENITAL TRACHEO-ŒSOPHAGEAL FISTULA WITH ECTOPIC ANUS.

By DAVID L. DEY,
Sydney.

(From the Royal Alexandra Hospital for Children,
Sydney.)

MARGARET P. was born at the Women's Hospital, Crown Street, Sydney, on April 4, 1951; she weighed over seven pounds and was thought to be suffering from imperforate anus. It was also noticed that there was much frothy mucus in the mouth, and that cyanotic attacks followed unless this was removed by suction as it appeared. The following morning the passage of meconium showed the presence of a small ectopic anus at the fourchette, and attempts at passing a small rubber catheter by mouth demonstrated Œsophageal obstruction. The child was transferred to the Royal Alexandra Hospital for Children, where radiographs showed a typical picture of a Voght type III deformity.

Operation was undertaken that evening, the infant then being some thirty-six hours old. Ether and oxygen were

administered intratracheally by Dr. A. Balthazar. A long incision was made posteriorly through the fourth right intercostal space, extending forward to the anterior axillary line, the dissection then proceeding extrapleurally. This approach, advised by Denis Browne, gave excellent and rapid exposure of the deformity in the posterior mediastinum without rib section, and appears much superior to the classical approach with resection of parts of the second to the fifth rib. After freeing of a particularly diaphanous lower Œsophageal segment from the trachea, anastomosis was performed in one layer around a small catheter. The child withstood the operation, which was completed in some ninety minutes, remarkably well.

The catheter in the Œsophagus was removed ten hours later, nutrition being maintained for the next seven days by the intravenous route. At this time the wound was fully healed, there was good air entry over both lung fields, and the absence of any excess mucus suggested that the anastomosis was patent. A plain X-ray film confirmed this, showing much gas in the bowel. Oral feeding was cautiously instituted, and after some difficulty became established. As the motions became firmer there was much straining with defecation, and it became clear that treatment of the secondary deformity was necessary. On June 8, 1951, local anaesthesia being used, the anus was enlarged posteriorly by a scissor cut in the mid-line, as suggested by Denis Browne. This uncovered a remarkably normal-looking anus and perineal body, which formerly lay in a sort of cave. A few fine catgut stitches united mucosa and skin. The anus so formed is normal in size and position, and appears to be continent—a sphincteric action is easily seen. This simple method has given a most satisfactory result. Apart from the possibility of future Œsophageal dilatation the child would appear to require no further treatment.

Discussion.

This deformity is said to be of relatively frequent occurrence, but such patients are rarely admitted to this hospital. The diagnosis is easy if the condition is kept in mind. It is suggested that an attempt should be made to pass a soft rubber catheter down the Œsophagus of any child showing excess of mucus in the first twelve hours, as a routine procedure, and before any attempts at feeding are made. This must remain the responsibility of the medical attendant. Immediate transfer for diagnostic radiological examination should follow in any case in which the catheter does not pass.

Radiographically, in this case a deformity of the body of the second thoracic vertebra was found. This is of some little interest, in that it suggests the possibility of some segmental factor in the production of the condition.

The successful outcome is a result of two factors: (i) the early diagnosis, (ii) the expert supervision of the after-care by Dr. J. McGlynn, surgical registrar, and the constant care in nursing by the ward staff, to whom my thanks are due. Survival appears unlikely in the absence of such care by those skilled in handling small babies.

REPORT OF TWO CASES OF SPONTANEOUS RUPTURE OF THE ŒSOPHAGUS.

By L. S. LOEWENTHAL, E. GOULSTON and
V. H. CUMBERLAND,
The Royal North Shore Hospital of Sydney,
Sydney.

SPONTANEOUS RUPTURE of the Œsophagus is an uncommon surgical emergency, dramatic in its onset and clinical manifestations, and almost uniformly fatal in its conclusion if early definitive treatment is not undertaken. It is important to differentiate clearly cases of spontaneous rupture from those of perforation secondary to trauma or preexisting disease of the Œsophagus.

This condition was first recorded by Boerhaave in 1724, when he described the dramatic case of Baron de Wassenaar, Grand Admiral of Holland, who survived the accident (and the heroic therapy of his attending physician) by some eighteen hours. Eighty cases have been recorded in the literature. Barrett in 1948 reported the first recovery from spontaneous rupture of the oesophagus treated surgically, and a further eight survivals have been noted in the literature since that date (Dunavant and Skinner, 1951; Clifton, 1949).

Aetiology.

Spontaneous rupture occurs more frequently in males than in females, and although there are recorded instances from infancy to extreme old age, the forty to fifty years age group is the most commonly affected. Gluttony and alcoholism are alleged to predispose to the condition, but in our cases were not significant factors. The rupture always occurs within a few centimetres of the oesophageal hiatus of the diaphragm, usually on the left postero-lateral wall, and is longitudinal. Vomiting nearly always immediately precedes the actual rupture.

It is probable that two factors are of importance: (a) the stretching and fixation of the organ due to the sudden forcible descent of the diaphragm which occurs as part of the vomiting reflex mechanism; (b) an incoordination of the crico-pharyngeus muscle, which fails to relax fully during vomiting, resulting in sudden and considerable distension of the viscus (Barrett, 1946).

Pathology.

It has been shown (Mackenzie, 1884) that if the cadaveric oesophagus is distended to the point of rupture, this always occurs in the lowermost portion of the oesophagus, and the tear is invariably longitudinal. There is a total absence of macroscopic and microscopic evidence of preexisting disease of the oesophagus. Fitz (1877) observed that the wall appeared to have been "cut with a knife". The gastric contents escape into the mediastinum and within a few hours of the accident perforate the mediastinal pleura, giving rise to a hydropneumothorax, usually on the left side.

Case I.

G.P. was a retired master mariner, aged seventy-six years. He was admitted to hospital on November 17, 1950, with a history of duodenal ulcer, which he had had for two years. He stated that during the last three months he had vomited at least once a day and the vomitus had occasionally contained blood.

Physical examination revealed no abnormality apart from benign hypertension, the blood pressure being 210 millimetres of mercury, systolic, and 110 millimetres, diastolic. Examination after a barium meal confirmed the diagnosis of duodenal ulcer with stenosis. He was treated with bed rest, diet and alkalis.

At 11 p.m. on November 23, 1950, whilst still in hospital, he vomited some ten ounces of "coffee-ground" material with streaks of fresh blood, and was immediately seized with agonizing abdominal pain. He was examined shortly after this incident and found to be restless and collapsed, with cold cyanotic extremities, and his blood pressure was 160 millimetres of mercury, systolic, and 100 millimetres, diastolic. Clinical examination revealed board-like abdominal rigidity with relatively little tenderness to palpation. Normal air entry was heard over both lung fields. A Wangenstein tube was passed and no stomach contents were obtained on aspiration. Two hours later the abdominal physical signs remained constant, but he was found to have evidence of left hydropneumothorax. Subcutaneous emphysema was detected in the neck. Examination with a lipiodol bolus confirmed the diagnosis of rupture of the oesophagus.

In spite of transfusions with whole blood his condition did not improve, and four and a half hours after the onset of this illness thoracotomy was performed by resection of the eighth left rib under general anaesthesia with controlled respiration. Much "coffee-ground" material was found in

the pleural cavity, the lung being collapsed. The mediastinal pleura was black and contained multiple perforations, from which gas and fluid were escaping into the pleural cavity. A drain was placed down to the mediastinum, the lung inflated and the chest closed. The drainage tube was connected to an underwater seal. The patient survived the thoracotomy by twenty-four hours.

A post-mortem examination revealed the following: (i) moderate hypertrophy of the left ventricle; (ii) gross atheroma of both coronary arteries; (iii) a chronic duodenal ulcer adherent to the pancreas and producing narrowing of the lumen of the duodenum; (iv) collapse of the lower lobe of the left lung; (v) a rupture of the oesophagus, 1.5 centimetres in length, just above the diaphragm on the left posterior wall of the viscus.

Histological examination of the oesophagus revealed no evidence of preexisting disease.



FIGURE I.

Case II. X-ray film after lipiodol bolus, showing the escape of the lipiodol through the oesophageal tear into the mediastinum just above the diaphragm.

Case II.

R.P., aged seventy-six years, was a teetotaler of normal gastronomic habits. He was admitted to hospital at 8 p.m. on April 14, 1951, with a history of having vomited at 1 p.m. (thirty minutes after his Sunday dinner), and of having experienced sudden abdominal pain. He stated that the pain was made worse by breathing, and that two hours after the commencement of his illness he had noticed severe pain in the back.

Physical examination showed the patient to be in considerable distress, and severe shock was present. His blood pressure was 100 millimetres of mercury, systolic, and 70 millimetres, diastolic. He had board-like abdominal rigidity with surprisingly little tenderness to palpation and absence of air entry over the left lung base. Subcutaneous emphysema was detected in the right supraclavicular region, but was minimal. Radiological examination of the chest revealed a left hydropneumothorax and

subcutaneous emphysema of the neck. Examination with a lipiodol bolus demonstrated a rupture of the œsophagus just above the diaphragm.

Resuscitation was commenced with whole blood. Thoracotomy was performed two hours after his admission to hospital, under general anaesthesia with controlled respiration. The left eighth rib was resected and when the pleural cavity was opened a large quantity of gastric contents was found. The mediastinal pleura was seen to be torn for a distance of about eight centimetres, and the œsophagus was delivered through the tear, the rupture being seen, two centimetres in length, on its posterolateral wall just above the diaphragm. The defect was oversewn with two layers of thirty-day gut on an atraumatic needle, the lung was inflated and the chest was closed around a drainage tube which was connected to an underwater seal.

Post-operatively the patient failed to recover consciousness, and his blood pressure was almost constantly below 100 millimetres of mercury, systolic, and 70 millimetres, diastolic. Death occurred on April 18, 1951—that is, four days after the onset of his fatal illness.

A post-mortem examination revealed the following: (i) pronounced aortic stenosis; (ii) some fresh fibrinous adhesions over the surface of the left lung; (iii) immediately above the cardia a vertical tear of the œsophagus, which had been closed by two layers of continuous catgut suture and showed evidence of healing.

Histological examination of the lower end of the œsophagus revealed no evidence of preexisting disease.

Diagnosis.

The clinical features which suggest a diagnosis of spontaneous rupture of the œsophagus are as follows: (i) sudden onset of agonizing pain in the lower part of the chest and the upper part of the abdomen, closely following an attack of vomiting, the pain later spreading over the whole abdomen and to the back; (ii) severe abdominal rigidity with disproportionately little tenderness to palpation; (iii) early signs of severe shock manifested by cold cyanotic extremities and low blood pressure; (iv) later, signs of fluid and/or air in the pleural cavity, most frequently on the left side.

In conjunction with the above-mentioned symptoms and signs of the disease, the clinical diagnosis is strengthened by the demonstration of subcutaneous emphysema in the neck. This may be minimal. Confirmation of the clinical diagnosis may be gained by examination with a lipiodol bolus, a pleuro-œsophageal fistula being demonstrated.

Treatment.

No case of spontaneous rupture of the œsophagus has been successfully dealt with through an abdominal incision. Although simple drainage through a thoracotomy incision has yielded an occasional survival, the efforts of those surgeons who have repaired the œsophageal tear have been more frequently rewarded.

Conclusion.

Two cases of spontaneous rupture of the œsophagus have been encountered within a period of six months at the Royal North Shore Hospital. A brief résumé is made of the ætiology, pathology, diagnosis and treatment of this surgical emergency, which, though unusual, presents such a constant sequence of symptoms and signs that early detection is not difficult. With early recognition and the application of the well-founded principles of the management of abdominal and thoracic emergencies there is good reason to expect that the proportion of patients who survive this catastrophe will continue to increase.

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Reviews.

A YEAR BOOK OF DERMATOLOGY AND SYPHILOLOGY.

THE customary editorial article that opens "The 1950 Year Book of Dermatology and Syphilology" is concerned with the treatment of pyodermas (common pus-forming infections of the skin).¹ The editors, Marion B. Sulzberger and Rudolf L. Baer, have written it as a guide to the general practitioner; it is nearly 44 pages in length and should be found both interesting and useful. The rest of the volume consists of abstracts from journals received by the editors between December, 1949, and November, 1950, accompanied by free but informed and helpful editorial comment. There are thirteen main sections. The first, and longest but one, is devoted to treatment and prevention (exclusive of venereal diseases); ACTH and the antibiotics dominate this section, but there are also many instructive accounts of success or failure with various forms of therapy. Then follow relatively short sections on various subjects: X-ray and other physical therapy; eczematous dermatitis and urticaria (allergic and non-allergic), and allergy; drug eruptions (allergic and non-allergic); miscellaneous hæmatogenous dermatoses; other dermatoses; cancers, precancerous and other tumours; *mycosis fungoides* and leucæmia; fungous infections; other infections and infestations. The section on venereal diseases (gonorrhœa is excluded) deals first with syphilis (treatment, untoward reactions to treatment, diagnostic procedures and clinical aspects) and then with venereal diseases other than syphilis and gonorrhœa. The longest section is devoted to a particularly commendable feature of this particular Year Book—accounts of investigative studies in dermatological conditions and in venereal diseases. A number of miscellaneous papers have a concluding section to themselves. A comprehensive general index with an index of authors completes a stimulating volume that should have an appeal far beyond the ranks of the dermatologists.

TROPICAL NUTRITION AND DIETETICS.

THE third edition of Lucius Nicholls's "Tropical Nutrition and Dietetics" is as far ahead of the second edition as the second was ahead of the first. This edition is very much larger, but does not give the impression of just having been added to—it has obviously been rewritten and enlarged during the rewriting. There can be no doubt that the author keeps up with modern work—it is no mean feat to rewrite even a small edition and get it into print at the beginning of 1951, and still include so many references dated 1949. It is the major drawback of text-books that owing to the lag in production they cannot possibly be less than two years behind recent progress, and because this is so it would be nonsensical to complain because this book gives only an introduction to the subject of amino-acids and merely hints at the complicated coenzyme interactions of amino-acids and vitamins. Rather is the author to be commended for the solid excellence of his chapters on the constitution of food, the processing and preparation of foods (about which he has much practical knowledge), and the classification of tropical foodstuffs. His handling of the deficiency diseases is especially good in that he refuses to be trapped into allotting one disease to one specific deficiency, but pays due regard to the overlapping and interaction of the various food constituents. He takes a sensible and practical view of the idealistic recommendations of those planners who lay down elaborate diets with wide

¹ "The 1949 Year Book of Dermatology and Syphilology (November, 1948-December, 1949)", edited by Marion B. Sulzberger, M.D., and Rudolf L. Baer, M.D.; 1950. Chicago: The Year Book Publishers. 7" x 5", pp. 514, with 76 illustrations. Price: \$5.00.

² "Tropical Nutrition and Dietetics", by Lucius Nicholls, C.M.G., M.D., B.C., B.A. (Cantab.); Third Edition; 1951. London: Baillière, Tindall and Cox. 9" x 6½", pp. 486, with 57 figures and 17 graphs. Price: 42s.

margins of safety, regardless of the economic capacity of the countries concerned; he is aware of costs, and is familiar with food prejudices in out-of-the-way corners of the tropics and with the tricks of institution food contractors.

It is a great pity that so valuable a book should be so carelessly written. The author has a blind spot for relative clauses, and his punctuation is erratic and often misleading; moreover there are far too many misprints and errors. But it is nevertheless a most valuable book, and public health authorities both in and out of the tropics should find it extremely useful.

A DOCTOR'S CAREER.

"THE DOCTOR", by Stanley M. Truman, M.D.,¹ is written to supply a need in the medical curriculum and in fact, in the year of residency, for little is given during the medical course to provide an understanding of the fundamental problems and functions of medical practice and the relations between the physician and the private patient. The author deals with conditions in the United States of America, but much of what is written applies equally to conditions in Australia.

There are chapters on the various fields of practice, the advantage of practising in city or country, and group or solo practice. It is interesting to note that in America there are approximately only 2% of doctors in group practice. Advice is given on planning, equipping and furnishing and personnel, and the need to allow for expansion, all necessary to assist the doctor in his work. On the business side the author takes up such subjects as insurance and savings, organizations to join.

The author writes of hospitals: "It has been shown that 80% of illnesses can be cared for outside the hospital walls and this means that there has been an over-emphasis on hospital training."

Warning is given of the necessity to become aware of the patient's environmental relations and of the need to recognize the emotional factors in illness, and of the fact that we must become increasingly aware of the patient as an individual and as a whole. "To be a good physician we must know patients as well as medicine."

Dr. Truman writes: "It is unfortunate and indeed undesirable that the young man or woman must decide which specialty or field he is going to enter before he has had actual practical experience in the realm of medical practice. There are two significant reasons why one should not direct one's specialty too early in a medical career. In the first place one has not sufficient experience to know what the practical field encompasses, and in the second place, the student who has already made up his mind is likely to approach other fields as an annoying hurdle to be surmounted and therefore fails to develop into a fully rounded physician."

The book should be read by all recent graduates.

THE PHARMACOLOGY AND THERAPEUTICS OF THE MATERIA MEDICA.

SINCE "Dilling" has now reached its nineteenth edition, this book needs little recommendation.² It is a compendious reference book of therapeutic agents and the relevant pharmacology.

This book is divided into three parts—the first dealing with the inorganic *materia medica*; the second with vegetable, animal and synthetic products; and the third with pharmacology and general therapeutics.

The new edition is the result of complete revision to accord with the 1948 British Pharmacopoeia and is as up to date as any text-book can be in this age of active pharmacological research. The reader will find clear and concise accounts of the newer antibiotics, aureomycin and terramycin, together with a short account of cortisone and the pituitary adreno-corticotrophic hormone. The antihistamines,

vitamin B₁₂, iron preparations for intravenous use, and the anti-cholinesterases are also treated concisely and adequately.

Professor Dilling's book perhaps errs on the side of the inclusion of too much rather than of too little, but it is essentially a handbook of the therapeutics of the *materia medica* rather than a text-book of pharmacology as we have come to expect today. There is no doubt that this is a most valuable book for the busy practitioner who needs to have an authoritative evaluation of drugs at hand and would otherwise be faced with the formidable task of a search through scattered literature often unfamiliar to him.

To the student "Dilling" provides all the detailed information likely to be needed in his studies in pharmacology and therapeutics and will leave him free to study the scientific basis of the subject from the literature of medical science.

A LAYMAN ON HIS DUODENUM.

THE title of "How I Cured My Duodenal Ulcer" by John Parr might more correctly have been "How Dr. J.-Jacques Spira, M.R.C.S., L.R.C.P., Cured My Duodenal Ulcer".³ Dr. Spira, whose name appears in *The Medical Directory* as a physician practising in London, is introduced in Chapter 9, in which he examines the author with "surgeon-pianist" hands. He is stated in a footnote to be the author of a book entitled "The Causation of Chronic Gastro-Duodenal Ulcers: A New Theory", published in 1931. Mr. Parr likes the look of him. Dr. Spira smiles, answers numerous questions about the natural history of duodenal ulcer and expounds the rationale of his treatment by means of a low-fat diet.

The first eight chapters of the book are devoted to the story of Mr. Parr's sufferings over twenty-five years, to the failure of physicians and surgeons to cure him and to his researches into medical "literature". "What quirk of vanity prompts doctors to talk about the writing of their colleagues as 'literature'?" he asks in a pointed aside. These chapters make an interesting conspectus of changing ideas and fashions in the treatment of peptic ulcer over the last thirty years; but both the medical and lay reader may find the extended gastro-duodenal biography the more indigestible as it contains no saving ray of humour. Of the author himself and of the possible environmental factors of his disease we are told almost nothing. We learn, however, that he was preoccupied with his illness for years and that he joined the army thinking that the war would give him something more important to think about than the state of his inside and free him from the "irksome" problems of business and family life.

DISEASES OF THE TROPICS.

A NUMBER of valuable works, embodying the results of the intensive wartime studies in tropical medicine, have recently been welcomed by workers in this field. To these a further substantial contribution from the Harvard Medical School has now been added in Dr. George Cheever Shattuck's "Diseases of the Tropics".³ In this handsome volume the author has achieved his stated aim of providing a concise but comprehensive account of the diseases of the tropics.

The greater part of the text is devoted to the description of the major tropical ailments, while those of lesser import are treated briefly, though adequately. In this way a well-balanced account is maintained. The work is conveniently presented in twelve parts. These deal in turn with the diseases due to protozoa of the blood and tissues, spirochetes, rickettsia, bacteria, viruses, helminths, intestinal protozoa and mycoses. In the final sections accounts are given of miscellaneous diseases, nutritional disorders, tropical climates and health, and noxious animals, plants and arthropods. About one-eighth of the volume's 803 pages are devoted to the discussion of malaria, and special emphasis is also given to the descriptions of yaws, leishmaniasis, amebiasis, the typhus group of fevers, plague and cholera.

¹"The Doctor: His Career, His Business, His Human Relations", by Stanley R. Truman, M.D.; 1951. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson, Limited. 9" x 6½", pp. 158. Price: 32s. 3d.

²"The Pharmacology and Therapeutics of the Materia Medica (Bruce and Dilling's 'Materia Medica and Therapeutics')", by Walter J. Dilling, M.B., Ch.B. (Aberd.), M.P.S. (Hon.); Nineteenth Edition; 1951. London, Toronto, Melbourne, Sydney and Wellington: Cassell and Company, Limited. 7½" x 5", pp. 630. Price: 21s.

³"How I Cured My Duodenal Ulcer", by John Parr; 1951. London: Michael Joseph. 8" x 5½", pp. 160. Price: 8s. 6d.

⁴"Diseases of the Tropics", by George Cheever Shattuck, M.D.; 1951. New York: Appleton, Century, Crofts, Incorporated. 9½" x 6½", pp. 803, with 131 illustrations. Price: \$10.00.

The method of presentation is particularly well planned, in consequence of which reference is greatly facilitated. The epidemiology, prevention and control of the various diseases are usefully indicated. Diagnostic laboratory data are concisely set out, with more detailed descriptions of recently adopted procedures. The introduction of the newer methods of treatment, upon which books of this description are at the present time likely to be judged by practitioners, has been satisfactorily achieved. The recent advances in therapy, too numerous to mention, are brought up to date in a manner which is commendable in a book whose preparation has necessarily been lengthy. Selected references to the literature are inserted at the end of each part. The work is well written, adequately illustrated and elegantly presented. It will be found useful to both students and practitioners of tropical medicine.

LABELLED ATOMS.

It is difficult to find one recent volume of any journal devoted to biological or medical science which does not contain at least one article on the use of labelled atoms in tracing the movement of a particular element or compound in chemical or biochemical systems. To those who wish to learn something of the basis, the possibilities and the limitations of this new technique "Labelled Atoms" by Raymond Glascock¹ will provide an excellent starting point. Issued as one of the Sigma "Introduction to Science" series, this book uses language suitable to the student of any science. After an adequate explanation of atoms, isotopes, and radioactivity, the methods of production and detection of radioactive isotopes are discussed with the help of excellent diagrams. The possible uses of radio-isotopes are illustrated by well-chosen examples discussed in some detail: these include the use of radio-iodine in investigations of thyroid function, the use of a number of radio-active and stable isotopes in studies of bone, blood and body fluids, and in problems of nutrition in humans, animals and plants, as well as the possibilities of radio-isotopes in the diagnosis and treatment of certain diseases. Bibliographies are provided at the end of each chapter for those who wish to extend their reading.

The book is warmly commended to any who wish to learn something of the recent and important developments with labelled atoms.

SURGERY FOR NURSES.

The second edition of "Modern Surgery for Nurses", edited by Dr. Wilson Harlow, is an attractively produced volume covering a wide range of surgical nursing.² It not only deals with the conditions and problems confronted in general surgery, but also has articles dealing with "specialist" nursing in such specialities as orthopaedics, gynaecology, urology, ophthalmology and oto-rhino-laryngology.

That one book should cover so much makes it an excellent reference book for nurses and tutor sisters, and it would be a valuable addition to any nurse's library for this reason alone. That it has been revised and contains much information on the recent advances in medicine and their application to surgical nursing in particular, considerably enhances its value.

The initial chapters cover trauma and infection, and then the question of general surgical nursing is discussed on a regional basis, followed by a very good section on the management of operations. Then come chapters on "specialist nursing", and a handy appendix.

One would like to have seen in a book of this size more space devoted to such nursing problems as those connected with wound infections and fluid balance.

The subject matter is presented in a very readable way and is yet summarized to aid revision. This combined with the excellent production will bring the book into line as a text-book as well as a book of reference. The quality of the illustrations is excellent and the publishers are to be congratulated on the high standard achieved not only with regard to them but on the arrangement of the whole book.

¹"Labelled Atoms: The Use of Radioactive and Stable Isotopes in Biology and Medicine", by Raymond Glascock, B.Sc., Ph.D.; 1951. London: Sigma Books, Limited. 7½" x 5", pp. 228, with 59 figures. Price: 10s. 6d.

²"Modern Surgery for Nurses", edited by F. Wilson Harlow, M.B., B.S. (Durham), F.R.C.S. (England), with a foreword by Sir Lancelot E. Barrington-Ward, K.C.V.O., M.B., Ch.M. (Edinburgh), F.R.C.S. (England and Edinburgh); Second Edition; 1951. London: William Heinemann (Medical Books), Limited. 8½" x 6".

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Chloroform: A Study after 100 Years", edited by Ralph M. Waters; 1951. Wisconsin: The University of Wisconsin Press. 9" x 5½", pp. 152, with 35 figures. Price: \$2.75.

Chloroform is considered in the light of present-day conditions.

"Aids to Anatomy: Pocket Anatomy", by R. J. Last, M.B., B.S. (Adelaide), F.R.C.S.; Eleventh Edition; 1951. London: Baillière, Tindall and Cox. 6½" x 4", pp. 386, with 60 figures. Price: 7s. 6d.

One of the "Student's Aids" series—a summary, not intended to replace the more elaborate text-book.

"Emotional Disorders of Children", by Gerald H. J. Pearson, M.D.; 1951. London: George Allen and Unwin, Limited. 8½" x 5½", pp. 368. Price: 18s.

The author deals with child psychiatry by discussing actual case situations.

"The Conference on European B.C.G. Programmes: Conducted with the Assistance of the Joint Enterprise, Copenhagen, Denmark, 8th to 12th September, 1949", issued by The International Tuberculosis Campaign; 1951. London: William Heinemann (Medical Books), Limited. 11½" x 8½", pp. 333, with a few illustrations. Price: 7s. 6d.

Papers and personal documents presented at the conference.

"Second Annual Report of The International Tuberculosis Campaign, July 1, 1949-June 30, 1950", issued by The International Tuberculosis Campaign; 1951. London: William Heinemann (Medical Books), Limited. 11½" x 8½", pp. 333, with a few illustrations. Price: 7s. 6d.

A summary of the work carried out in all International Tuberculosis Campaign countries.

"The Versatile Victorian: Being the Life of Sir Henry Thompson, Bt., 1820-1904", by Zachary Cope, M.D.; 1951. London: Harvey and Blythe, Limited. 9" x 6", pp. 188, with nine illustrations. Price: 12s. 6d.

The second volume in the "Masters of Medicine" series.

"Clinical Unipolar Electrocardiography", by Bernard S. Lipman, A.B., M.D., and Edward Massie, A.B., M.D., F.A.C.P.; 1951. Chicago: The Year Book Publishers, Incorporated. 9" x 6", pp. 232, with 191 illustrations. Price: \$5.00.

Intended for those inexperienced in the field of "V lead" electrocardiography.

"The 1950 Year Book of Physical Medicine and Rehabilitation (December, 1949-January, 1951)", edited by Frank H. Krusen, M.D., Earl C. Elkins, M.D., and George G. Deaver, M.D.; 1951. Chicago: The Year Book Publishers, Incorporated. 8" x 5½", pp. 328, with 134 illustrations. Price: \$5.00.

One of the "Practical Medicine Series" of Year Books.

"Genesis and Geology: A Study in the Relations of Scientific Thought, Natural Theology, and Social Opinion in Great Britain, 1790-1850", by Charles Coulston Gillispie; 1951. Cambridge, Massachusetts: Harvard University Press. 8½" x 6", pp. 328. Price: 84s.

The scope of the book is shown in the subtitle.

"Skull Fractures and Brain Injuries", by Harry E. Mock, M.D.; 1950. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson, Limited. 9½" x 6½", pp. 820, with 116 illustrations. Price: £7 5s. 3d.

The book is "a history of the growth of one surgeon's hobby", extending over forty years.

"A Synopsis of Regional Anatomy", by T. B. Johnston, C.B.E., M.D.; Seventh Edition; 1951. London: J. and A. Churchill, Limited. 8" x 5½", pp. 456, with 20 plates and 17 text-figures. Price: 22s. 6d.

The first edition appeared in 1921 and the sixth in 1948.

The Medical Journal of Australia

SATURDAY, SEPTEMBER 1, 1951.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: surname of author, initials of author, year, full title of article, name of journal without abbreviation, volume, number of first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

CHILD HEALTH IN A RURAL COMMUNITY: THE ADELAIDE HILLS INVESTIGATION.

In July, 1945, attention was drawn in these columns to an interim report of an investigation which was being carried out into the health of children living in the hills district surrounding Adelaide. This investigation, which was described as one of the finest pieces of voluntary work in preventive medicine that has been undertaken in the Commonwealth of Australia, was carried out by ten medical practitioners living in the Adelaide hills district. The report was written by Dr. C. C. Jungfer. It was intended that the investigation should cover a period of five years. The interim report dealt mainly with the first two of these years. The final report, which was issued in 1948, was not given a great deal of prominence, but it has been brought to light by the recent death of Dr. Frank Sandland Hone, who was chairman of the advisory committee appointed in connexion with the investigation by the National Health and Medical Research Council. At this stage it is not too late to discuss the final document.

In the opening section of the report Dr. C. C. Jungfer, the author, refers to the constant inspiration given by Frank Sandland Hone in connexion with preventive medicine. Without his teaching the survey would have been impossible—the medical practitioners of the Adelaide hills would not have developed the necessary public health conscience. In what follows here, some repetition of our statement in 1945 will be unavoidable. It is necessary to point out again that the area of the survey is part of the central subdivision of South Australia and covers 428,540 acres; it is divided into both range and undulating country. The people, who are estimated to number 20,000, are almost entirely engaged in primary industries. During the five-year period a total of 5840 individual children, ranging from one to sixteen years of age, were examined. There were 2937 boys and 2903 girls. In all 16,339 medical examinations were conducted during the period. Some of the children were examined as often as five times. The

number of children examined five times was 1229. It will be clear that a certain number of children were over nine years of age during the first year of the survey and they would have left school before the survey was complete. It is important to note that the survey actually maintained contact with 89% of the original participants whose age permitted them to remain in the survey for the full time. This means that the parents of the children maintained their interest throughout the period. The reasons why children left the survey were as follow: 778 children left school on reaching the age beyond which there is no compulsion; 229 went to Adelaide to attend secondary schools; 21 children left the State school to attend a convent which was not covered by the survey; five children were kept at home and received tuition from a correspondence school; 35 children refused examination; and 18 children died during the five-year period. The information collected from the history circulars contained some facts on the methods of infant feeding. It is concluded that in the Adelaide hills breast feeding has not been a principal factor in the reduction of infantile deaths, but that the present low rate must be due to the more intelligent handling of the infant, whether it is breast or bottle fed. Among the clinical conditions of the children which are discussed in detail is goitre. For many years the Adelaide hills region has been regarded as an endemic goitre area. One of the main purposes of the investigation was to test the validity of this belief. That the hills district must be looked on as an endemic area is clear from the fact that the incidence of goitre in the children aged ten years and over is at least 21% for girls and 4% for boys. Although the incidence is higher in the older children, an appreciable percentage of children develop goitre between six and nine years of age. The incidence of goitre is uniform throughout the Adelaide hills, with the possible exception of the Mount Barker district. No relationship between adolescence and goitre was found in the girls, but the incidence of goitre was greater in children with poorer general nutrition than in those who were in a good nutritional state. The incidence of tonsillar disease was discussed in the interim report. Among the group of 1229 children who were examined throughout the whole period of five years, 12.7% had normal tonsils throughout the period. This incidence was fairly constant at all ages. Tonsillectomy was performed for 27.4% of children and another 12.2% had been recommended for operation by the time of the last examination. Tonsillectomy was most frequently performed when the child was between seven and ten years of age. The general statement is made that there is almost a 50% chance that by the time the child completes primary school life either the tonsils will have been removed or their removal will have been recommended. In an appreciable number of children, the tonsillar condition tended to become normal as the child grew older. This applied particularly to simple hypertrophy of the tonsils. No relationship could be found between tonsillar hypertrophy and the nutritional state. At this point the nutritional state should be mentioned. Investigation showed that 16% of boys and 26% of girls were more than 10% below normal weight for height. Of these, 6% of boys and 8% of girls were more than 15% below the standard. Jungfer points out that these findings are somewhat similar to those obtained by Clements and Machin in other areas.

In the Adelaide hills it was found that the malnutrition was less in fruit and vegetable growing areas than in dairying districts. Some factors which may help to cause this state in the dairying community are the dislike of milk and chronic fatigue. In the interim report we are told that the children had an almost universal dislike for milk. This was thought to be due partly to the primitive and often insanitary methods of milking. It was thought that abundance of milk was not entirely responsible for the aversion because there was no antipathy shown by the children to fruit, of which they had plenty. It would appear that fatigue must be a factor in malnutrition because children in the dairying districts work throughout the year. They are expected to work in the cowyard both before and after school hours. In this regard it was noted that boys of the undulating country showed a higher incidence of malnutrition than did those of the ranges. One hundred and twenty children who were badly nourished were investigated in 1942. The findings are grouped under three headings. First of all, as the children grew, all were considerably below the normal weight for height; they were not above average height; whilst a proportion were increasing normally in height, the majority were not gaining in weight normally. A small group had a severe form of malnutrition in which growth in height and increase in weight were both below normal. Secondly, although many of the children showed evidence of past or present disease, there was no reason to suggest that these conditions were alone responsible for the poor nutritional condition. Thirdly, in regard to home conditions there was no difference between children living on farms and those living in the villages. The first child, but not necessarily the only child, was most likely to be malnourished; family difficulties were found in a majority of instances, but in other homes every feature appeared satisfactory. The statement is justified that the problem of these malnourished children requires further investigation.

Although several other conditions are discussed under the heading of clinical observations, reference will be made to only two of them. They were mentioned in the interim report. The first is that dental caries was found in 97% of cases and that in 70% of these the condition was gross. Secondly, visual defects were much in evidence. At the end of the survey and despite repeated notifications, it was found that 70 of 122 children with visual defects had not received further investigation and treatment. It is remarked that visual defects appear to be adversely influenced by a poor nutritional state. No children were found with a visual defect which was thought to be influenced by infection.

In any general discussion on this survey it may be well to begin by a reference to Jungfer's last conclusion—the falsity of the belief that in a pleasant and fertile countryside, free from economic hardship, there must be a healthy child community. This may be accepted with the reservation that the necessity for children to work every day in cowyards and so on is a hardship. No one can doubt that the resulting fatigue has a bad effect on the welfare of the child. The most pleasing aspect of the whole survey has been the keenness with which it has been undertaken by voluntary workers. Medical practitioners have given a public service to the community and the parents of the

children have supported them throughout. It is of interest that in a section of the report Jungfer discusses the history of child health and welfare in South Australia from 1836 to 1936. This historical study discloses the fact that in the past voluntary effort has initiated the principal measures for the improvement of the well-being of the child, and that legislative action has followed at various stages to give the necessary authority, and often to decide the degree of participation by the Government. This is as it should be in a free society. Unfortunately times are changing and most people, including medical practitioners, expect some remuneration for what they do. For this reason, the Adelaide hills survey has been one of the most refreshing incidents in the history of Australian medicine during recent years. It will be remembered that in the interim report the conditions found were first put into two categories. In the first were conditions which could be fairly rapidly corrected by active measures, while the second were those which had progressed and could be dealt with only under a long-term public health programme. The long-term public health programmes will call for further investigation. We know, for example, that these children are the subject of malnutrition, but it must be clear that this is not entirely a question of whether they eat the right food or not. No single factor can be picked out for correction, for the factors are closely interwoven one with another. Such abnormalities as defects in vision and caries of the teeth can be corrected if ophthalmologists and dental surgeons are available. This subject might be discussed at great length, but such a discussion is not necessary at the moment. Sufficient has been written to show that this investigation, splendidly conceived by ten medical practitioners from the Adelaide hills, has been in the best traditions of medicine and will act as a signpost for the future.

Current Comment.

THE AETIOLOGY OF DUPUYTREN'S CONTRACTURE.

THE old controversy about the aetiology of Dupuytren's contracture has been raised again by E. G. Herzog¹ in a report of an investigation carried out in Rotherham, England. The question considered is the difficult though practically important one of the relationship of Dupuytren's contracture to hard work, and so, of course, to the awarding of compensation. Herzog points out that three possibilities exist: Dupuytren's contracture is always caused by hard work, or it is never caused by hard work, or hard work is a contributory cause. The first possibility is readily ruled out by the number of reported cases occurring in women, young people and others who have not done hard work. It may be recalled that some years ago C. E. Corlette² considered the subject of Dupuytren's contracture with some thoroughness and mentioned that he himself had the condition in its first phase. He advanced strong reasons for his views that the aetiology was familial and not occupational or traumatic. Herzog's findings support the negative part of these views, though he does not consider the familial factor other than in passing. He suggests that if Dupuytren's contracture is never caused by excessive strain on the palmar fascia, the incidence in manual and non-manual workers should be equal, provided that allowance is made for age

¹ *The Lancet*, June 16, 1951.

² *THE MEDICAL JOURNAL OF AUSTRALIA*, August 19, 1944.

and that a sufficiently large number of persons is examined to eliminate the error of chance distribution. On the other hand, if hard work is a contributory (though not the only) cause, there should be a significantly higher number of cases among labourers as compared with clerks. To test these possibilities Herzog made arrangements with large firms in Rotherham, Sheffield and Manchester for the examination of the hands of workmen and male clerks. He found 24 cases of Dupuytren's contracture among 1000 steelworkers, 22 cases among 1000 miners and 19 cases among 1000 clerks. Most of the cases were in men over the age of forty years; the incidence in this group was 22 cases among 503 steelworkers (4.3%), 21 cases among 451 miners (4.6%) and 18 cases among 480 clerks (3.75%). The results of individual visits to works and offices showed a large variation, which Herzog considers can be attributed solely to chance. For instance, two cases were found among 25 bank clerks over the age of forty years (8%, if one is prepared to be blind to the fallacy of converting such small numbers to percentages), and no case was found a few days later among 136 miners, of whom 64 were over the age of forty years. For this reason Herzog is not prepared to regard as significant the slight difference in the incidence between clerks and workmen. Possibly his figures could be submitted to a more searching analysis than he has given them, particularly if more data were available about the subjects examined and other factors could be brought into the picture. Nevertheless, the figures are striking and appear to lend support to the view of those who, like Corlette, believe that "there is no sound evidence to show that occupation, or trauma, or the various other imagined causes, are able to induce the disease in anybody".

THE EARLY HISTORY OF PSYCHIATRY IN AUSTRALIA.

PROFESSOR JOHN BOSTOCK, of Brisbane, has placed all who have to do with Australian mental hospitals under his debt. He has undertaken and carried out painstaking research into the establishment of mental hospitals in Australia. He calls his work "The Dawn of Australian Psychiatry" and he begins with the institution built on Castle Hill at Governor Phillip's direction in 1811. The story, at any rate as far as New South Wales is concerned, is one of recurring struggles by well-intentioned superintendents against unsympathetic or indifferent bureaucratic control. George Suttor, the first superintendent, suffered gaol in his support of Governor Bligh, on whose behalf he later gave evidence in England. He returned to Australia and became a successful pastoralist. Excellent regulations for the care of the insane were framed under the authority of Governor Macquarie, but were only indifferently fulfilled. Repeated requests by Mr. Suttor for soap were ignored. In 1839 Mr. Digby arrived to take charge of a new hospital at Tarban Creek (Gladesville), to suffer in due course for higher level official shortcomings. In 1843 an ex-patient obtained a verdict for £100 for wrongful detention. A century ago the maintenance of the 140 inmates of the institution was costing £21 per head *per annum* (compared with £130 in 1949). In 1846 an article in *The Sydney Morning Herald* led to the appointment of a Select Committee of Inquiry, which recommended that a medical man "to whom a liberal salary should be paid" be appointed superintendent, and that Mr. Digby continue as keeper or steward. Dr. Campbell, who had come out from England, took over as superintendent of Tarban Creek in January, 1848. In his first annual report, couched in optimistic and somewhat misleading terms, he made no mention of the unfortunate Mr. Digby, who came in for further criticism from outside some time later and returned to England with Mrs. Digby in 1850. In Dr. Bostock's opinion Mr. Digby has "earned a high position in the historical scale of mental hospital humanitarians". Dr. Bostock has abstracted several of Dr. Campbell's case records preserved at Gladesville, which give a lively

description of the patients and testify to Campbell's clinical skill. The Campbell régime was, however, short-lived since he in turn came under censure. With the exception of Tasmania the records regarding the care of the insane in the early days in other States are scanty.

This work consists of 240 pages of roneoed foolscap sheets. It is a thousand pities that the book has not been printed, for it is of national importance from the historical point of view.

ACCIDENTAL PREFRONTAL LEUCOTOMY.

SOME four years ago we published a letter by H. V. Foxton, of Brisbane,¹ in which he described a remarkable circumstance encountered at Suvla Bay in 1915. A soldier had sustained a through-and-through bullet wound from one temporal region to the other with no apparent ill effects for the time, and his mates agreed that he had become "a very noticeably more cheerful person". This was followed by a letter from Professor Lambert Rogers, of Cardiff,² about a similar leucotomy produced by a bullet, but in this instance it was self-inflicted in an attempt at suicide by a melancholic; as a result of the injury, the man lost his depression and developed a keenness to live, despite the continuance of financial, domestic and other difficulties that would have daunted many stout hearts. Now another case, not unlike that described by Rogers, has been reported by John Slorach.³ The patient, a retired army officer, aged fifty-five years, shot himself through the head with a revolver while in bed at 11 p.m. Next morning he got up, dressed, cooked his breakfast and was eating it when his wife discovered him. He had always been of a melancholy disposition, selfish, independent and inconsiderate, though a hard worker. More recently he had been moody, difficult and depressed and had threatened to shoot himself. On admission to hospital after the shooting, he was resistive, restless, aggressive and impulsive, and resisted examination, but he was accessible, though retarded in thought. He was disoriented in time and place, had no memory of the shooting and a patchy memory of events for some days afterwards, and had falsification of memory and great difficulty in finding nouns. He was aurally hallucinated and expressed delusions of persecution. Physical examination revealed no abnormal neurological signs. The radiologist was satisfied that the bullet had traversed the patient's brain and so produced a leucotomy. Slorach reports that the patient quickly settled down. He became rather apathetic and uninterested in his surroundings, but made steady progress. After three months he was mentally alert, rational, more interested in his surroundings and cooperative, and he read the daily papers. His loss of memory for the incident and subsequent events persisted. He denied ever having been depressed and would not admit that he had inflicted the wound on himself. His wife said that he was just as intolerant, selfish, inconsiderate, stubborn and awkward as before, though not tense or depressed. Nine months later he had made an uneventful recovery; his depression had not recurred, but he was just as bad-tempered, unreasonable and difficult to live with as before. As Slorach points out, it is difficult in such cases to assess the relative importance of the various physical and psychological factors in the whole set of circumstances. It seems fairly evident that frontal lobe damage produced effects like those of deliberate leucotomy, though other factors, such as the accomplishment of the suicidal act, must have left a profound impression. Opinions about this will vary. More striking to most observers will be the comparative harmlessness of a bullet traversing the skull and brain, even if we allow for the possibility of osteomyelitis, secondary epilepsy and the like.

¹ *The Medical Journal of Australia*, November 22, 1947.

² *Ibidem*, February 28, 1948.

³ *The Lancet*, June 23, 1951.

Abstracts from Medical Literature.

RADIOLOGY.

Pulmonary Lobar Collapse as Observed Radiographically.

M. LUBERT AND G. R. KRAUSE (*Radiology*, February, 1951) discuss the mechanisms and radiological patterns of pulmonary lobar collapse and illustrate this by diagrams and reproductions of radiographs, with emphasis on the lateral view. They state that the lobes do not merely shrink to become smaller replicas of themselves. As they become smaller they change from a three-dimensional, pyramidal or conical figure to approach a two-dimensional triangle and flatten along the mediastinal and parietal pleura. With continuation of the collapsing force, they move along the curved surface of the chest wall toward the hilum, the direction of the movement depending on the natural configuration and position of the lobe and the presence or absence of modifying factors. The use of a paper triangle, bent upon itself, is presented as a useful pedagogic tool to simulate the shape of lobes undergoing collapse and to illustrate, by its unfolding, the course followed by each lobe as it shrinks toward the hilum.

The Central Fat Tissue of the Kidney.

FRANK WINDHOLZ (*Radiology*, February, 1951) describes the radiological signs of the central (peripelvic) soft tissue of the kidney as they appear on routine urograms and in laminographic examinations. He places emphasis upon the fact that visualization of the fat tissue makes possible observation of significant parts of the inner aspect of the kidney parenchyma (floor of the sinus, renal papillae and Bertin's columns). He states that the substance (parenchyma) of the kidney is outlined between the lateral margin of the radiolucent fat and the border of the kidney shadow. Normally a fairly constant ratio exists between the thickness of the renal parenchyma and the central fat tissue; this is 1:0.8 or 1:0.9 in persons of middle age, decreasing with advancing age to 1:1.2 or less. Diffuse proliferation of the central fat tissue is observed in obesity and in diffuse atrophy of the kidneys. Circumscribed proliferation is encountered in circumscribed atrophy of the kidneys, in chronic pyelonephritis, kidney stones, infarct scars *et cetera*, as well as in circumscribed primary hyperplasia of the fat tissue itself. The effect of fat proliferation, diffuse or circumscribed, on calyces and kidney pelvis is uniform. In both conditions it causes narrowing (compression), separation and elongation of calyces and narrowing of the kidney pelvis. The practical results of these studies for urography are as follows: (i) Spastic-appearing "empty" calyces are frequently caused by uncomplicated proliferation of the central fat tissue and not by infection of the kidney pelvis. In the presence of increased amounts of fat (obesity, atrophy) this appearance is the rule. It may be exhibited by both kidneys or by only one (diffuse fat proliferation) or by parts of one kidney

(circumscribed fat proliferation). (ii) Isolated "spastic" calyces surrounded by circumscribed fat proliferation may indicate localized parenchymal atrophy due to inflammatory or nutritive damage to the kidney parenchyma. (iii) Atrophy of the kidney parenchyma may be recognized on urograms in cases in which the size of the kidney shadow is not diminished. In such conditions the radiolucency caused by the central fat tissue is enlarged, the parenchyma is narrowed, and the calyces appear empty or spastic ("central atrophy"). (iv) Circumscribed primary fat proliferation may cause deformities of calyces and of the kidney pelvis which are identical in appearance with deformities caused by parenchymal tumours. Differentiation is based on the radiolucency of fat and the opacity of tumours. Obliteration of the central fat tissue may be diagnostic of renal tumours. (v) Study of the distribution of the central fat may be helpful in the recognition and clarification of certain malformations of the kidneys.

X-Ray Diagnosis of Tumours of the Breast.

RAÚL LEBORGNE (*American Journal of Roentgenology*, January, 1951) states that the X-ray study of the breast should now be included in the clinical investigation of symptoms in the diagnosis of mammary disease. Because of the complex pathology of the breast and the small difference of opacity between normal and abnormal tissues, the X-ray study demands a perfect technique. Cranio-caudal projection is employed. First, a topographical radiograph is made, with a cone large enough to cover the total area of the breast. Then, a second film is exposed, localizing the exact site of the tumour; a cone of the smallest possible diameter is used, so as to reduce secondary radiation. Slight pressure is exerted with the cone on a small cotton pad placed between the cone and the breast so that the least quantity of breast tissue is interposed. Tumours localized near the upper portion of the breast are not seen clearly in the cranio-caudal projection; consequently, the technique must be complemented by a lateral film study. Encapsulated benign tumours, fibroadenoma or cysts produce rounded or multilobulated images with smooth borders, sometimes seen partially or totally surrounded by a transparent halo, which separates it from the mammary tissue in immediate relation to the tumour. The size of the tumour on the radiograph corresponds very closely to its palpable size. Cysts filled with citrine liquid are transparent, fibroadenomata present a medium opacity, and cystadenocarcinomata, because of their usual haemorrhagic contents, are notably opaque. With malignant tumours the diameter may be from 1.0 to 4.0 centimetres, but the basic element for diagnosis is that the size seen on the radiograph is generally smaller than the palpable size. The borders do not usually present the same sharpness of outline as is seen with benign tumours; on the contrary, they have ragged borders with numerous spicules of variable lengths, which radiate from the periphery into the surrounding mammary tissue. This spiculated border is characteristic of malignant tumours and discloses its eminently scirrhous nature. The shadow of the tumour is uniformly dense, sometimes containing a scattering of multiple, punctate calcifications. These

calcifications constitute a radiographic sign of singular diagnostic value; they resemble grains of salt and are generally clustered in a region of the breast. When calcifications extend beyond the borders of the tumour nodule they generally correspond to canalicular forms. The radiographic study of the operative specimen also permits the localization of the tiny calcifications for histopathological study, and thus aids in finding a small cancer which would otherwise be overlooked. Occasionally no radiographic image is seen coincident with a palpable tumour, and in these cases an exploratory biopsy should be carried out without delay.

Manifestations of Hypervitaminosis D.

W. R. CHRISTENSEN, C. LIEBMAN AND M. C. SOSMAN (*American Journal of Roentgenology*, January, 1951) state that ingestion of excessive amounts of vitamin D₂ (irradiated ergosterol) may lead to the development of a radiological picture characterized by concomitant occurrence of generalized osteoporosis and metastatic calcification. Abnormal calcium deposits may occur in almost any organ and tissue; however, under certain circumstances they may appear as large, smoothly lobulated, amorphous, cystic masses of calcium, density restricted to peri-articular structures, namely, burse, synovial cavities and tendon sheaths. Metastatic calcification occurring in the absence of destructive bone lesions, but in the presence of generalized osteoporosis, should suggest the possibility of hypervitaminosis D₂. When these criteria are met and metastatic calcification occurs in amorphous, smoothly lobulated masses confined to peri-articular structures, the differential possibilities are almost completely limited to chronic nephritis, hyperparathyroidism and hypervitaminosis D₂. It is suggested that more attention be directed toward the possible specificity of vitamin D₂ in producing the clinical syndrome of hypervitaminosis D.

Chronic Poisoning due to Excess of Vitamin A.

JOHN CAFFEY (*American Journal of Roentgenology*, January, 1951) reports the clinical manifestations, the radiographic changes in the skeleton and the elevation of blood vitamin A level in a group of seven infants and younger children poisoned by ingestion of excessive quantities of vitamin concentrates A and D over periods of several months. He states that there are several characteristic features in the clinical picture. In all cases there was a long latent period of several months between the start of excessive dosage and the appearance of diagnostic clinical signs. The length of this latent period did not depend on the size of the overdose. The shortest latent period was six months; the longest was fifteen months. The appearance of tender swellings has been used as the criterion for the onset of the clinical disease. Tender swellings, hyperirritability and limitation of motion all became evident at about the same time. Tender swellings were most common in the forearms, but they were more conspicuous in the shanks and feet in some patients. Swellings were always deep and firmly attached to underlying structures, apparently the bones. The overlying skin in contrast

was freely movable over the deeper masses and was never oedematous or discoloured. Large temporal and occipital swellings developed in two patients, but the mandible and face were always normal in all patients. Hyperostoses were found under all the soft tissue swellings which could be demonstrated clinically. All the 14 ulnas in seven patients were affected, and in every patient one or more of the metatarsals was thickened. The high incidence of localization in the ulnas and metatarsals appears to be the most diagnostic feature of the skeletal lesions of poisoning due to excess of vitamin A intake. There are several outstanding differences which readily identify hypervitaminosis A and infantile cortical hyperostosis as separate entities. Infantile cortical hyperostosis has always made its appearance during the first four months of life, and in one case was present on the first day of life; in hypervitaminosis A, on the other hand, diagnostic clinical signs have never been recognized before the twelfth month of life. The face and jaw have been swollen and the mandible has been thickened in every case of infantile cortical hyperostosis; these structures have not been affected in a single case of hypervitaminosis A.

PHYSICAL THERAPY.

Malignant Neoplasms of the Brain.

CARLETON B. PEIRCE AND JEAN BOUCHARD (*Radiology*, September, 1950) present a survey of cerebral tumours treated over a ten-year period (1939-1948 inclusive) in the Department of Radiology, Royal Victoria Hospital, Montreal. They state that in radiation therapy of malignant lesions of the brain, the closest cooperation between neurosurgeon and radiotherapist is essential. It is obvious that accurate localization of the tumour with an estimate of the approximate size is needed, and in addition, during treatment, the patient must be under careful observation for untoward reactions. Full facilities for relief of excessive intracranial pressure must be available, and in general, the patient should be in hospital for a considerable part of the course of treatment. Irradiation should begin as soon after operation as possible, and the initial daily doses should be small, to be raised according to the condition of the patient. An attempt has been made to assess the value of irradiation by comparing the average survival time following operation alone with that following operation plus irradiation. *Glioblastoma multiforme*, for example, comprised about one-third of the tumours treated. This is a rapidly growing invasive tumour, and recurrence is very frequent following operation. The average post-operative survival time is eight and a half months. With irradiation added to surgery, the average survival time rose to twenty-five months among the five living and 14.3 months among the 20 patients who died. The average survival time was 15.6 months. A minimal tumour dose of 7500r is recommended. Astrocytoma is a more slowly growing glioma, common in the cerebellum of children and in the frontal and temporal lobes of adults. The average post-operative survival time in these cases is 36.2 months, which about one-third of patients will attain. If

irradiation is added, the average survival reaches 48.7 months. The authors, in these cases, aim to give a tumour dose of 9000r. The treatment of oligodendroglioma follows the same pattern as for astrocytoma, the tumours being not very sensitive. Medulloblastoma is a moderately rapidly growing tumour arising in the cerebellum during childhood, and is perhaps the most radiosensitive of all cerebral tumours. It has, however, a strong tendency to disseminate widely through the cerebro-spinal fluid, and the prognosis is poor. Early irradiation of the whole of the brain and spine is essential if results are to be improved. McWhirter, of Edinburgh, considers that about 78% of meningiomas are sensitive to irradiation. These have a shorter history, a cerebral blood supply and a tendency to induce more bone reaction than the insensitive group. No actual figures are available from Montreal to support McWhirter's opinion, but the authors state that their results of surgery plus irradiation are encouraging and will be analysed later. The conclusion is reached that irradiation has a major role to play in the control of malignant tumours of the brain. It is not a procedure to be entered upon lightly, but requires close and complete cooperation between neurosurgeon and radiotherapist.

Treatment of Thyroid Tumours with Radioactive Iodine.

GEORGE CRILE (*The American Journal of Roentgenology and Radium Therapy*, March, 1951) states that radioautographs of nodular goitres and of carcinomata of the thyroid usually show a very spotty and irregular uptake of I^{131} . Because most of the I^{131} may be taken up in a few very active but very small areas, the greater part of the tissue may receive little or no irradiation, as the β -radiation of I^{131} penetrates only a short way. If tumours of the thyroid are to be successfully treated with I^{131} it will be necessary to change the functional activity, so that all parts that it is desirable to destroy take up I^{131} . Rawson has attempted to solve the problem in the case of metastatic carcinoma of the thyroid by removing the thyroid and giving thiouracil and thyreotropic hormone. He has succeeded in some cases in producing significant increases in the total uptake of I^{131} . The patients are then given very large doses, up to 100 millicuries. Nodular goitres with hyperthyroidism usually require a dose of I^{131} three to ten times as large as those which control the hyperthyroidism of Graves's disease and cause the goitre to disappear. Even these doses rarely cause more than slight reduction in size or slight improvement in the hyperthyroidism unless given in divided doses. The uptake of I^{131} by papillary carcinomata of the thyroid is as irregular as that of multilobular goitres, and therefore these tumours fail to regress after single doses no matter how large the dose. In a group of 30 patients with nodular goitre and hyperthyroidism, reduction of the goitres to about half in size has followed control of the hyperthyroidism. The control of the hyperthyroidism and diminution in size of the goitre appeared to depend (within certain limits) more upon the number of doses given than upon the size of the individual doses. Even single doses as

large as 35 millicuries failed to control hyperthyroidism in patients with nodular goitre, although doses as low as five millicuries have produced myxoedema in patients with Graves's disease. Most papillary carcinomata of the thyroid are operable, and most of the other malignant tumours of the thyroid do not take up I^{131} , so that the field for the use of I^{131} in the treatment of a primary growth would appear to be small. The author's experience is limited to the study of nine cases of papillary carcinoma, of which only two took up significant amounts of I^{131} . A report is given of one patient studied over a period of ten years who was treated by I^{131} in 1947. The palpable masses in the neck disappeared entirely. A further case is mentioned in which apparently the use of I^{131} accelerated the malignant process. The author states that if the normal thyroid function is destroyed by thyroidectomy or the administration of I^{131} , the pituitary is stimulated to increase the output of thyreotropic hormone. This in turn may stimulate the thyroid tumour to take up I^{131} and so result in its destruction. If, however, the tumour does not take up I^{131} , the thyreotropic stimulation may cause it to grow more rapidly. If treatment is given intermittently at intervals of six to eight weeks over a sufficient period of time, all functioning thyroid tissue can be destroyed without the use of any large quantity of I^{131} at one time. Unfortunately, with carcinomata of the thyroid the more undifferentiated portions do not take up I^{131} . Ablation of the normal thyroid by operation can, however, cause at least part of certain malignant tumours to take on the function of the normal thyroid, and it is hoped that all areas of these tumours may be made functional and so destroyed. When the tumour cannot be made to take up I^{131} consideration must be given to the possibility of increased growth of the tumour from thyreotropic stimulation. This may be avoided by the administration of desiccated thyroid.

Angina Pectoris Treated with X Irradiation of the Adrenals.

W. RAAB (*The American Journal of Roentgenology and Radium Therapy*, June, 1950) states that irradiation of the adrenal glands is intended to decrease the abnormal excretory irritability of the adrenal medulla, which is claimed to be a characteristic of angina patients. The adrenal medullary discharges are believed to lead to acute painful anoxia of the heart muscle. Beginning in 1937, 200 patients suffering from angina pectoris on effort were given irradiation over the adrenal medulla, in some cases combined with irradiation of the cervical and upper thoracic regions of the spine. The cases were subdivided according to severity and to the degree of subjective improvement. It is claimed that 76% of all patients showed at least some improvement for an average period of thirty-one months; 31% were entirely free of symptoms for an average of forty-three months. Many patients received more than one course of treatment, and it appears that the patients likely to respond do so with one or two courses. The author was unable to find any definite signs indicating whether or not treatment was likely to be successful, but the severity of the disease and particularly the duration were of importance.

British Medical Association News.

ANNUAL MEETING.

The annual meeting of the South Australian Branch of the British Medical Association was held at the Verco Lecture Theatre, Institute of Medical and Veterinary Science, Adelaide, on June 27, 1951, the President, Dr. C. O. F. Rieger, in the chair.

ANNUAL REPORT OF THE COUNCIL.

The annual report of the Council was received and adopted on the motion of Dr. A. D. Lamphie, seconded by Dr. R. M. Glynn. The annual report is as follows.

At the annual general meeting of the Branch, held on June 30, 1950, the following officers and members of Council were elected:

Vice-President: Dr. R. L. Thorold Grant.

Honorary Treasurer: Dr. F. L. Wall.

Honorary Medical Secretary: Dr. R. C. Angove.

Ordinary Members of Council: Dr. G. L. Bennett and Dr. J. M. Pedler.

At the first Council meeting of the new year, held on July 6, 1950, the following members were appointed to fill the vacancies occasioned by the failure to elect (*vide* Rule 43 (2)):

President: Dr. C. O. F. Rieger.

Second Vice-President: Dr. J. M. Dwyer.

Ordinary Member, Group A: Dr. G. H. Burnell.

Ordinary Member, Group B: Dr. T. E. G. Robertson.

The following subcommittees were also appointed:

Scientific: Dr. M. E. Chinner and Dr. J. M. Pedler.

Contract Practice: Dr. L. R. Mallen, Dr. F. B. Turner, Dr. R. H. Hamilton and Dr. G. L. Bennett.

Contract Practice Negotiating Committee: Dr. C. O. F. Rieger, Dr. L. R. Mallen, Dr. F. L. Wall and Dr. R. H. Hamilton.

Ethics: Dr. M. E. Chinner, Dr. Thorold Grant, Dr. F. B. Turner, Dr. F. L. Wall and Dr. G. H. Burnell.

Parliamentary Bills: Dr. L. R. Mallen and Dr. G. H. Burnell.

Publicity: Dr. F. B. Turner, Dr. G. L. Bennett and Dr. J. M. Pedler.

Library: Dr. M. E. Chinner, Dr. J. M. Pedler, Dr. J. M. Dwyer and Dr. G. H. Burnell.

Salaries: Dr. R. H. Hamilton, Dr. G. L. Bennett and Dr. L. R. Mallen.

Tuberculosis: Dr. H. M. Jay, Dr. D. R. W. Cowan, Dr. J. L. Hayward, Dr. K. S. Hetzel, Dr. H. D. Sutherland and Dr. J. G. Sleeman.

The president, immediate past president (if any), the vice-president, or vice-presidents, the honorary treasurer and the honorary medical secretary are ex-officio members of all committees, other than the ethics and the standing committees.

The president and honorary medical secretary are ex-officio members of the ethics and of all standing committees.

Monthly Scientific Meetings.

Nine scientific meetings have been held up to June 21, 1951, the following programme being carried out:

1950.—July 27: Clinical meeting at Royal Adelaide Hospital. September 28: Miss Nancy Atkinson, "Viruses and Bacteria". October 26: Clinical meeting, Adelaide Children's Hospital, including talk by Dr. Neil D. Crosby on "Enuresis". November 30: Lecture by Dr. F. Ray Hone on the subject of "Pneumonia".

1951.—February 22: Lecture by Dr. B. S. Hetzel on "Hypertension". March 29: "Medical Education", introduced by Professor Abbie. April 26: Listerian Oration delivered by Professor Bruce T. Mayes, of Sydney, entitled "Lister: An Obstetric Tribute". May 31: Lecture by Dr. W. F. Joynt entitled "Toxemias of Pregnancy". June 21: Clinical meeting, Repatriation Hospital.

In addition to the above, members were invited by the University of Adelaide Post-Graduate Committee in Medicine to a film evening held on October 31, 1950, and to a lecture by Professor Jupe on May 25, 1951. Similar invitations were also given to members to attend a combined scientific meeting of the College of Radiologists (Aust. and N.Z.) held on November 3, 1950, and by the Australasian Association of Psychiatrists to meetings held at the Mental Hospital, Parkside, on April 24, 1951, and June 5, 1951.

Membership.

The membership of the Branch is 673, fifty new members being elected throughout the year.

It is with sincere regret that the Council records the deaths of Dr. J. E. Bateman, Dr. J. I. Guenther, Dr. D. L. Barlow, Sir Arthur Cudmore and Dr. Frank S. Hone. Both Sir Arthur Cudmore and Dr. Frank S. Hone were honorary life members of the association; the latter was president of the Branch from 1911 to 1912 and one of the two of our first Federal delegates.

Representation on Boards et cetera.

Medical Board of South Australia: Dr. E. Britten Jones (chairman).

Dental Board of South Australia: Dr. W. John Close.

Australian Aerial Medical Services Council: Dr. J. M. Dwyer.

Federal Council of the British Medical Association in Australia: Dr. L. R. Mallen and Dr. C. O. F. Rieger.

Saint John Ambulance Association: Dr. H. H. Hurst.

Representative of "The Medical Journal of Australia": Dr. E. F. Gartrell.

British Medical Hall Company Directorate: Dr. C. O. F. Rieger and Dr. F. L. Wall.

Mothers and Babies' Health Association: Dr. Neville Bickford.

Bankers' Health Society: Dr. J. Estcourt Hughes.

ATTENDANCES OF COUNCIL MEMBERS AT COUNCIL AND COMMITTEE MEETINGS.

	Council.	Scientific.	Salaries.	Contract Practice Negotiating.	Contract Practice.	Ethics.	Library.	Pharmaceutical Medical Liaison.
ANGOVE, R. C. ..	10	1	2	—	—	2	—	2
BENNETT, G. L. ..	12	1	1	—	1	—	—	—
BURNELL, G. H. ..	7	—	—	—	—	2	2	—
CHINNER, M. E. ..	10	1	—	—	—	1	2	2
DWYER, J. M. ..	12	1	—	—	1	—	—	—
GRANT, R. L. T. ..	12	1	—	6	1	3	—	—
HAMILTON, R. H. ..	12	—	2	6	1	—	—	—
HEDDLE, R. C. ..	11	—	—	—	—	—	—	—
MALLEN, L. R. ..	12	—	2	6	—	—	—	—
PEDLER, J. M. ..	11	1	—	—	—	—	1	—
RIEGER, C. O. F. ..	13	1	2	6	1	3	—	2
ROBERTSON, T. E. G. ..	5	—	—	—	—	—	—	—
TURNER, F. B. ..	12	—	—	—	1	2	—	2
WALL, F. L. ..	11	1	2	6	1	3	—	—
Total meetings held up to May 3, 1951 ..	13	1	2	6	1	3	2	2

Certifying Medical Practitioner under Part IX of the Workmen's Compensation Act: Dr. C. H. Schafer and Dr. M. Erichsen.

Advisory Council on Health and Medical Services: Dr. L. R. Mallen.

Nurses Board of South Australia: Dr. G. H. Burnell.

University Post-Graduate Committee in Medicine: Dr. L. R. Mallen, Dr. J. E. Hughes and the President *ex officio*.

Anti-Cancer Campaign Committee: Dr. C. O. F. Rieger.

Representative on Central Council of Association, London: Dr. Miles Formby.

Representative to Annual Representative Meeting of the Association, London, June 13 to 16, 1951: Dr. L. R. Mallen.

Chiropractic Board of South Australia: Dr. Neville P. Wilson.

Florence Nightingale Memorial Committee: Dr. Mary Burnell and Dr. Ruth Heighway.

Panel of Medical Referees under the Provisions of Section 97 (a), Subsection 7, of the Workmen's Compensation Act: Dr. M. E. Chinner, Dr. E. Britten Jones, Dr. Guy London, Dr. K. S. Hetzel, Dr. F. Ray Hone and Dr. E. McLaughlin.

Branch Representation on Membership of the Australasian Medical Publishing Company, Limited: Dr. L. R. Mallen and Dr. C. O. F. Rieger.

Sections.

Section of Anaesthetics.

The report for the year 1949-1950 states that there are nineteen members of the Section. The office bearers are: *Chairman*, Dr. J. R. Cornish; *Vice-Chairwoman*, Dr. Mary Burnell; *Secretary and Treasurer*, Dr. J. E. Barker.

Seven meetings have been held during the year, and the Section has enjoyed papers from a number of visitors, including Dr. R. Trauer (Czechoslovakia), Dr. H. Daly (Sydney), Dr. G. Kaye (Melbourne) and A. Charles King, Esq. (London). An excellent demonstration of films and equipment, given by Messrs. C.I.G., was much appreciated.

Section of Clinical Medicine.

The annual report for the year states:

1. *Membership*.—There are 38 financial members of the Section. This is somewhat disappointing and is considerably less than the previous year.

2. *Committee*.—At the annual general meeting held on May 11, 1950, the following officers were elected: *Chairman*, Dr. J. G. Sleeman; *Honorary Secretary and Treasurer*, Dr. W. M. Irwin; *Committeemen* (three others), Dr. Ivan Magarey, Dr. Mark Bonnin and Dr. A. Kerr Grant.

3. *Clinical Meetings*.—Meetings were held in the Physiotherapy Department, Royal Adelaide Hospital, in May, August and November, 1950, and February, 1951. During the year it was decided that in future meetings should, as far as possible, be held on the second Tuesday of these months, and members were notified accordingly. The average attendance was 30 members.

4. *Section of Clinical Medicine Prize*.—The prize for 1950 was won by Mr. P. R. Hodge.

Eye, Ear, Nose and Throat Section.

The annual report of this Section for the year ending March 20, 1951, states: During the year five meetings were held. The average attendance was thirteen members. There are twenty-one members in the Section.

Meetings were held as follows:

1950.—March 14: Annual meeting. May 16: Paper by Dr. Peter Jay on "Recent Experiences Abroad". July 4: Paper by Dr. M. C. Moore on "Recent Experiences Abroad". September 5: The President of the Branch (Dr. C. O. F. Rieger) outlined the future relations of lodges and doctors. November 7: Ocular infections at the Royal Adelaide Hospital, and four cases were shown.

The office bearers are: *Chairman*, Dr. G. H. B. Black; *Vice-Chairman*, Dr. Von der Borch; *Secretary and Treasurer*, Dr. R. N. Reilly; *Committeeman*, Dr. J. A. Roland.

Northern Medical Association.

Annual Report for Year Ended June 30, 1951.

Four meetings were held during the year.

The first meeting was held at Blyth in July when Dr. Malcolm Cockburn gave a paper on "Jaundice in Infancy". The second meeting was held at Balaklava on November 26, when films were shown by Dr. L. R. Mallen on his

projector: (a) Phagocytosis in Lung; (b) Circulation in Capillaries of Ear; (c) Intussusception.

The third meeting was held at Clare in February in conjunction with the Post-Graduate Committee in Medicine of the University of Adelaide. The lectures were: Dr. K. S. Hetzel, "Recent Advances in Medicine"; Dr. E. B. Sims, "Recent Advances in Paediatrics"; Mr. E. F. West, "Fractures and Injuries of Lower Extremity"; Dr. W. F. Joynt, "Recent Advances in Midwifery". Twenty-three members attended this very successful refresher course and expressed their appreciation of the lecturers and the Post-Graduate Committee.

The fourth meeting was held at Port Pirie, where cases were shown by: Dr. G. Viner Smith, "Myelomatosis"; Dr. R. D. Hammill, "Rheumatic Fever"; Dr. V. W. Potter, "Stenosing Teno Synovitis"; Dr. F. D. Rowe, "Congenital Pyloric Stenosis"; Dr. K. R. Burdon, "Lung Abscess".

Then followed the annual meeting, and the following officers were elected for the ensuing year 1951-1952: *President*, Dr. G. Wren Smith; *Past President*, Dr. L. R. Mallen; *Honorary Secretary*, Dr. A. C. Behrnt; *Members of Committee*, Dr. R. C. Heddle and Dr. V. W. Potter; *Honorary Auditor*, Dr. K. J. Basedow. Seventeen members attended this meeting.

There are ten financial members of the association, twenty members being unfinancial, up to date of audit, May 14, 1951.

The average attendance at meetings was thirteen.

South-Eastern Medical Association.

Four meetings were held during the year.

1950.—July 22: Penola. Clinical meeting, including a film, "Lower Segment Caesarean Section", kindly lent by Professor B. T. Mayes, of Sydney. This was followed by dinner, after which Dr. A. Britten Jones addressed the meeting on "Hiatus Hernia" and "Chronic Relapsing Pancreatitis". October 20: Mount Gambier. Annual general meeting. The following office bearers were elected for the ensuing year: *President*, Dr. H. K. Pavy; *Vice-President*, Dr. C. E. King; *Secretary and Treasurer*, Dr. M. C. Newland; *Committee Members*, Dr. R. R. Bowey and Dr. J. S. Jeffries. A clinical meeting was held, followed by dinner. An address was given by Dr. M. T. Cockburn, "Modern Treatment of Childhood Disorders".

1951.—January 20: Naracoorte. The Nuffield Fellows addressed the meeting, the first being Dr. Peter Verco on "Advances in Radiology". This was followed by dinner, after which Dr. H. D. Sutherland spoke on "Some Aspects of Chest Surgery". April 14: Mount Gambier. Afternoon clinical meeting and dinner. An address was given by Dr. H. M. Jay, his subject being "Aural Discharge: Its Significance and Treatment".

In addition to the above meetings, Dr. W. Pickles, of Yorkshire, addressed the association on May 1, 1951, on "Epidemiology in General Practice".

There are twenty financial members of the association, and the average attendance at meetings was twelve.

Upper Murray Medical Association.

The report of the Upper Murray Medical Association for the year ending June 30, 1951, states: The first meeting for the year was held at Loxton on July 11, 1950. A paper on epidemic jaundice and report of 120 cases were presented by Dr. R. L. Miller, of Walkerie. A paper was also given by Dr. R. K. Wilson, of Renmark, on "Practice of Medicine in Ancient Greece".

The second meeting was held at Renmark on September 19, 1950. This took the form of a film evening by courtesy of Nicholas Proprietary, Limited, when the following films were shown: "Intussusception in Infants" and "Hydatid of the Liver".

The third meeting was the annual general meeting held at Berri on October 14, 1950, when the following office bearers for the ensuing year were elected: *President*, Dr. R. K. Wilson; *Past President*, Dr. M. V. Samuel; *Vice-President*, Dr. D. T. M. Hayes; *Honorary Secretary*, Dr. T. G. Kohler; *Committee*, all members. After the annual general meeting the members attended a post-graduate week-end course provided by the Post-Graduate Committee in Medicine of the University of Adelaide. Lectures were: Dr. Mark Bonnin, "Hypertension"; Dr. W. F. Joynt, "Hypertension in Pregnancy and Obstetric Emergencies"; Dr. Noel Bonnin, "Surgery of the Genito-Urinary Tract"; Dr. I. S. Magarey, "Fever in Infancy".

The fourth meeting was held at Barmera on December 12, 1950: "Backache Classified Anatomically", presented by Dr. T. G. Kohler, of Berri; "Anuria following Crush Syndrome", presented by Dr. W. J. Sleeman, of Renmark.

The fifth meeting was held at Walkerie on February 13, 1951. The second part of Dr. Sleeman's paper was presented concerning extrarenal uræmia.

The sixth meeting was held at Loxton on April 10, 1951. Each member presented a case of ten minutes' duration and a short discussion followed each case.

The seventh meeting was a special meeting held at Barmera on May 5, 1951, to attend a lecture by Dr. W. Pickles, of Yorkshire, on "Epidemiology in Country Practice". This meeting was arranged through the Post-Graduate Committee.

The eighth meeting was held on June 12, 1951, at Renmark. Members again presented ten-minute papers.

During the year Dr. R. K. Wilson and Dr. P. Koop joined the association. Dr. Sargent, who retired from his Barmera practice, has left the district. Members of the association feel that the past year has been a very successful one from the point of view of lectures, post-graduate week-ends, meetings, and also socially. It is hoped that the following year will be equally successful. The average attendance at meetings was eight.

Alteration of By-Laws.

Amendments have been made to the present by-laws relating to the proceedings of the Ethics Committee, and these will be considered at the annual meeting when the necessary approval of the Council's action will be sought.

Branch Handbook.

In conjunction with the reprinting of the new rules and by-laws the Council has decided to issue a Branch handbook which it is thought will be of much interest and assistance to all members. The handbook should be of particular interest and help to the newly qualified practitioner in the early stages of his career in assisting him to overcome many of the early difficulties with which he may be confronted. The relevant information is in course of being compiled by a special subcommittee, and it is anticipated that the necessary printing arrangements will be shortly put in hand and copies sent to all members of the Branch.

Medical Library.

It is desired to remind members of the facilities offered to the joint British Medical Association-University of Adelaide Medical Library, which is now situated at the new Medical

School Building, Frome Road, Adelaide. The Council contributes a substantial annual grant to the university for medical library purposes, in order that all members may have the right to borrow books and periodicals, and thus gives members an opportunity of keeping their reading up to date on items of current medical interest.

Any members who have suggestions to make regarding the advisability of purchasing new books are asked to communicate with the office of the Branch in this regard, and where possible giving the appropriate information as to any published reviews of such books, for the assistance of the joint library committee.

Medical Fees.

After reference to all local associations and groups the Council at its meeting held on December 7 last decided to recommend that the private fees for consultations and visits outside the metropolitan area be increased to the amounts of 12s. 6d. and 15s. respectively as from January 1, 1951. At a further meeting held on March 8 last it was decided to recommend that private medical fees within the metropolitan area be increased to 12s. 6d. (consultations) and 15s. (visits) respectively as from April 1, in order to bring such fees in line with fees charged in the other States. This scale of fees is now in operation.

Formation of Pharmaceutico-Medical Liaison Committee.

The inaugural meeting of this committee was held on August 10, 1950, when four members of the Council met an equal number of representatives from the pharmaceutical profession, "for the discussion of common problems and matters of mutual interest". The arrangement has been entered into at the suggestion of the Pharmaceutical Society of South Australia and three meetings have been held throughout the year. It is considered that these meetings have served a very useful purpose and been of value to members of both professions.

Student Associate Membership.

The matter of extending the privilege of student associate membership of the Branch has engaged the attention of the Council for some time. The existing rules and by-laws have been amended in order to extend this concession to students in the Faculty of Medicine at the University of Adelaide from the third year onwards. Student membership commenced as from January 1 last, and already 41 students have availed themselves of this provision, which includes an invitation to attend all scientific meetings of the Branch and to receive both the *British Medical Journal* and *THE MEDICAL JOURNAL OF AUSTRALIA* at a very substantial reduction in the usual rate of subscription.

SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION (INCORPORATED).

Income and Expenditure Account for the Year ended December 31, 1950.

	£	s.	d.		£	s.	d.	£	s.	d.
To Salaries and Superannuation	1,080	14	0	By Gross Subscriptions—						
" Postages	157	9	11	City	3,172	18	6			
" Telephone and Telegrams	58	0	1	Country	936	7	0			
" Stationery and Printing	214	3	3					4,109	5	6
" Rent	91	17	5	Less Deductions from subscrip-						
" Legal Expenses	37	17	0	tions—						
" Audit Fee	10	10	0	British Medical Association,						
" Depreciation	30	10	0	London	769	0	6			
" General Expenses	163	13	11	THE MEDICAL JOURNAL OF AUS-						
" Surplus income over expenditure for year ..	276	1	9	TRALIA	369	10	0			
				Federal Council Capitation Fee	609	9	6			
				Library Grant	294	2	6			
								2,042	2	6
				" Net Subscription				2,067	3	0
				" Interest				46	3	3
				" Medical Certificate Books				7	11	1
	£2,120	17	4					£2,120	17	4

Library Account for the Year ended December 31, 1950.

	£	s.	d.		£	s.	d.	£	s.	d.
To Balance, December 31, 1949	97	10	2	By Subscriptions—						
" University Grant	300	0	0	City	241	17	6			
				Country and Junior	52	5	0			
								294	2	6
				" Balance carried forward				103	7	8
	£397	10	2					£397	10	2

SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION
(INCORPORATED).

Balance Sheet as at December 31, 1950.

LIABILITIES.			ASSETS.		
	£	s. d.		£	s. d.
Sundry Creditors			Furniture and Plant (at cost less depreciation)		274 14 9
Listerian Oration (invested as <i>per contra</i>)		276 4 5	Delineascope and Projector (at cost less depreciation)		10 0 0
British Medical Hall Company, Limited: Building Fund		789 2 1	Lister Medals and Dies (at cost less depreciation)		2 0 0
General Fund	4,253 18 1		British Medical Hall Company, Limited: Share Account—167 Preference, 134 Ordinary		3,044 10 0
Surplus for Year	276 1 9	4,529 19 10	Australasian Medical Publishing Company, Limited—		
			5% Debentures at cost	30 0 0	
			3½% Debentures at cost	900 0 0	
			Advance not yet converted	4 0 7	934 0 7
			Stocks on Hand		68 8 0
			Sundry Debtors—		
			British Medical Hall Company, Limited	153 14 5	
			Library Account	103 7 8	
			General	36 16 2	293 18 3
			Special Accounts—		
			Lister Savings Bank	116 6 2	
			Library Savings Bank	1 15 8	
			Building Fund:		
			Savings Bank	524 12 1	
			Commonwealth Bonds	200 0 0	842 13 11
			Cash—		
			National Bank of Australasia, Limited	1 16 5	
			Commonwealth Savings Bank	75 2 3	
			Savings Bank of South Australia	161 16 0	
			Cash on Hand	2 12 4	241 7 0
					£5,711 12 6
					£5,711 12 6

F. C. W. DOBBIE, Secretary.
F. L. WALL, Honorary Treasurer.

AUDITORS' REPORT.

We hereby report we have examined the Books and Accounts of the South Australian Branch of the British Medical Association, Incorporated, for the year ended December 31 1950. In our opinion the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the affairs of the Branch as at the above date according to the best of our information, the explanations given to us, and as shown by the books produced.

Adelaide, May 29, 1951.

MUECKE, PICKERING AND Co., Chartered Accountants (Aust.),
Auditors.

Contract Practice.

Following upon the refusal of the United Friendly Societies Council of South Australia to implement and pay an increase in capitation fees to which lodge surgeons were entitled in accordance with Clause 13, the Council gave notice of termination of agreement and the lodge contract system ceased to exist in South Australia as from November-December last.

The friendly societies have inaugurated a medical benefits fund to reimburse lodge members for a portion of the amount of each fee for consultation or visit that may be charged by a medical practitioner.

The method of payment by a fee for service is at present working to the satisfaction of both the profession and members of friendly societies.

Pharmaceutical Benefits Act.

Under the provisions of this Act which came into force on August 1, 1950, and under the regulations which have been gazetted, the Government has agreed to supply free to the people of Australia a number of non-compounded life-saving drugs, most of them relatively expensive.

This list was drawn up at the request of the Minister for Health by a special committee appointed by the Federal Council of the British Medical Association in Australia and is amended at frequent intervals. The Council considers that, the preliminary work of establishing the nature of the formulary having been completed, the future content of the formulary should be in the hands of a statutory committee, and it has made this recommendation to the Federal Council.

Pensioner Medical Service.

After negotiation between the Federal Council of the British Medical Association and the Commonwealth Government, agreement was reached in May, 1950, for a pensioner medical service, the cost to be borne by the Government. The medical profession agreed to give pensioners, that is, old-aged, invalid, ex-service and tuberculosis, a medical service which is described as involving services of a minor or special character, as are ordinarily rendered in the surgery or in the home, on the lines of the previously existing model common form of lodge agreement.

It has been agreed to render a concessional service to the pensioner group on a fee-for-service basis, such fee to vary in accordance with the rise or fall in the basic wage, and to be adjusted every six months.

The Federal Council has expressed to the Minister for Health its dissatisfaction at the present rates of payment of 6s. and 7s. 6d. which were decided on in May, 1950. The Council has pressed for an immediate increase in the fees on a *pro rata* basis to 7s. 6d. and 9s. 6d. in accordance with the increase in the basic wage, and further that each adjustment shall in future be automatic when other changes are made in the basic wage. The Council has also urged the simplification of the present voucher system so that paper work on the part of the doctor may be reduced to a minimum.

The Minister for Health has assured the Federal Council that the Government has agreed to review the fees in June and December of each year and to confer with the Federal Council early in June next so that the adjustment in fees may commence as from the end of June, 1951. The Government has also agreed to the payment of mileage in accord-

ance with recommendations previously made to the Minister, and has intimated that additional pharmaceutical benefits will be made available to all pensioners at an early date.

Two special general meetings of members have been held throughout the year. At the first meeting held on December 13, 1950, a resolution was proposed to the effect that it was viewed with concern that the Federal Council should enter into an agreement with the Government without prior consultation with all members of the association. This motion was put to the meeting and lost.

At the second general meeting held on April 3, 1951, after a very full and frank discussion the following resolution was adopted:

That the fees for consultations and visits be 10s. 6d. and 12s. 6d. respectively, and that these fees shall be automatically adjusted in accordance with variations made in the basic wage every six months as from July 1, 1951.

The Federal Council has been advised of this accordingly.

Honours to Members of the Branch.

The Council tenders its congratulations to Sir Philip Messent on whom His Majesty has been pleased to confer the honour of Knight Bachelor, and to Dr. F. F. Heddle and Dr. J. R. Thompson who have been admitted to the Order of Saint John in the Grade of Serving Brother.

(Signed) C. O. F. RIEGER,
President.

FINANCIAL STATEMENT.

The financial statement, which is printed herewith, was adopted on the motion of Dr. F. L. Wall, seconded by Dr. D. R. W. Cowan.

ELECTION OF OFFICE BEARERS.

Dr. C. O. F. Rieger said that in the absence of further nominations he had pleasure in declaring Dr. R. L. Thorold Grant to be president of the Branch for the ensuing twelve months. He invested Dr. Grant with the badge of office. Dr. Grant thanked the members for his election.

Dr. R. L. Thorold Grant said that the following had been elected office bearers for the ensuing year:

Vice-President: Dr. B. S. Hanson.

Honorary Treasurer: Dr. F. L. Wall.

Honorary Medical Secretary: Dr. R. C. Angove.

Members of Council: Dr. J. D. Fotheringham, Dr. H. A. Goode, Dr. A. C. McEachern, Dr. R. H. Von der Borch, Dr. A. G. Rowe and Dr. D. Viner Smith.

Messrs. Muecke, Pickering and Company were elected auditors for the ensuing year.

THE RETIRING MEMBERS OF COUNCIL.

On the motion of Dr. H. M. Jay, seconded by Dr. E. A. H. Russell, a vote of thanks to retiring members of the Council was carried.

RETIRING PRESIDENT'S ADDRESS.

Dr. C. O. F. Rieger read his retiring president's address entitled "The Life and Times of William Gosse" (see page 281).

Dr. E. F. Gartrell proposed and Dr. L. L. Davey seconded the vote of thanks to Dr. Rieger for his address. The vote was carried by acclamation and Dr. Rieger replied.

Out of the Past.

In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.

PAINLESS SURGERY.¹

[*Australian Medical Journal*, July 1, 1847.]

Since our last publication, accounts of the effects of sulphuric ether inhalation have poured in upon us from all quarters: and loud has been the blowing of trumpets, and great the jubilation, and overwhelming the nonsense uttered and indited, thereupon. In a letter addressed to the *Sydney Morning Herald* of the 15th inst. Mr. Charles Nathan adduces, in a very *ex cathedra* style, his experiences of "the last few days" to prove the perfect harmlessness of the practice! Mr. N. had better wait awhile before he pronounces his opinion so positively; and in the meantime, we would refer him to a work, which possibly he in his

¹ By courtesy of the Mitchell Library, Sydney.

etheral transcendentalism may not have thought worthy of notice—we mean Dr. A. T. Thomson's *Dispensatory* of 1818, where, under the head "sulphuric ether", he will find it stated that injurious effects had, even then, ensued from inhalation of its vapour.

Among others, however, who have gone out of their way (ne sutor &c.) to descant on a subject they do not understand, is the Editor of the *Herald* himself, who it appears "went to see the show" and came back with his ideas so bewildered by what he there witnessed, or inhaled, as incontinently to indite a leader: in which, after giving an account of the proceedings he attempts to philosophize thereupon: and amongst other things he asserts, that although "the most respectable medical authorities are agreed that no dangerous or injurious results are to be apprehended, either at the time of, or subsequent to the application of, the ether", yet "the precise nature of its effect on the nervous system and the brain is, as yet, mere matter of scientific speculation". That is to say, it is already decided that it cannot be injurious, although its effects are yet unknown! A pretty specimen of logical induction this! It is further asserted that "all are agreed that this new agent will be of incalculable value in the more critical operations of surgery", which assertion we deny—and are so far from giving our assent to the proposition (and in this we are not alone) that it is precisely in those "more critical operations" in which the state of the patient's pulse and countenance are the required indices of the effects of hemorrhage, or of the shock of the operation on the system, that we would not use it.

That when people get into the hands of unskilful operators—as when, for instance, in performing lithotomy, the surgeon finds his way into the cellular tissue between the bladder and the rectum—it would be merciful to thoroughly intoxicate them either with ether or any other drug we fully admit: but that this vaunted process will prove, in all cases, so entirely free from danger, we do not believe. That a healthy person may occasionally be made drunk by ether, with as little as, or even with less, ulterior mischief than by the usual means we do not attempt to deny: but that harm is not likely to ensue from it in apoplectic habits, or in cases of disease, or even tending to disease in the lungs or heart, we must be allowed, at least without much greater experience than either ourselves, the gentlemen of the Westminster Hospital, or even the Editor of the *Herald*, and his friends have yet had, to doubt. In short, it may for a time serve interested parties as a medium for puffing themselves, and for mystifying the public, by enveloping the matter in a cloud of pseudo-scientific balderdash: but the simple fact is, that to inhale the sulphuric ether is neither more nor less than a mode (a somewhat more than commonly elegant and *recherché* mode, we allow) of getting drunk: and as to its effects on the brain and nervous system, we will venture to affirm, that if practised with a frequency proportioned to the transient nature of the stimulus [*sic*], as decided an attack of delirium tremens may be induced by it as by the imbibition of brandy.

Do not let us be misunderstood. We do not say it ought entirely to be eschewed: all we contend for is, that it should be used not indiscriminately, but with caution, and only by or under the superintendence of medical practitioners, who, instead of allowing themselves to be run away with by the novelty of the process, should use it and investigate its effects coolly and philosophically, so that it may not, if calculated to be really useful, come, as many other therapeutic means have come, to a premature end, through the discredit thrown upon it by its abuse. Above all, let the greatest caution be observed lest it get into the hands of unprincipled parties, who may apply it to the basest of purposes, or those who incautiously subject themselves to its influence may have cause to repent for the remainder of their lives. Verbum. Sap.

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

Clinical Meeting at Balmoral Naval Hospital.

THE Post-Graduate Committee in Medicine in the University of Sydney announces that a clinical meeting will be held at the Balmoral Naval Hospital on Tuesday, September 11, 1951, at 2 p.m., when Dr. A. W. Morrow will speak on "Nephritis". Clinical cases will be shown at 4 p.m., after afternoon tea. All members of the medical profession are cordially invited to attend.

Medical Prizes.

THE AUSTRALIAN ORTHOPÆDIC ASSOCIATION PRIZE, 1952.

THE Australian Orthopædic Association will award its prize of twenty-five guineas for the best original and unpublished essay on "The Indications for, and End Results of, Excision of the Patella". Entrants for the prize are to be either sixth year medical students or graduates of not more than five years' standing at the date of closure. The essay shall not exceed 5000 words, and if no essay is deemed of sufficient merit the committee retains the right to withhold the prize. The publication rights of the essay shall belong to the Australian Orthopædic Association. Essays shall be typewritten with double spacing and should be in triplicate; they should be forwarded under a pseudonym to the Honorary Secretary, Dr. A. R. Hamilton, 135 Macquarie Street, Sydney. A separate sealed envelope should be enclosed, containing the name and address of the candidate, together with the pseudonym used. Entries will close on June 30, 1952.

University Intelligence.

THE UNIVERSITY OF MELBOURNE.

THE following information has been culled from the *University of Melbourne Gazette* of August 7, 1951.

The University Council on July 2 conferred the title of Emeritus Professor on Professor Paton, whose appointment as vice-chancellor began on the previous day.

At its July meeting, the Standing Committee reelected Dr. Ewen Downie and Dr. Charles Cunningham to casual vacancies to represent graduates in medicine.

Dr. N. C. R. Merrillees, formerly demonstrator in anatomy and research officer of the National Health and Medical Research Council, has been appointed senior lecturer in histology; Dr. R. D. Marshall, formerly temporary lecturer-demonstrator, has been appointed to the permanent staff as lecturer in anatomy. Both appointments dated from July 1.

Dr. G. S. Christie, senior lecturer in pathology, has been granted a year's leave of absence, from September 1, to take up the Nuffield Fellowship awarded him last April. Dr. Christie will work under Professor S. R. Cameron, of the University College Medical School, London.

Congresses.

FIRST INTERNATIONAL CONGRESS OF NEUROPATHOLOGY.

IN September, 1952, the first International Congress of Neuropathology will meet in Rome, Italy. The following neuropathologists have been elected Honorary Presidents of the Congress: Dr. U. Cerletti (Italy), Dr. J. G. Greenfield (United Kingdom), Dr. G. B. Hassin (United States), Dr. J. Lhermitte (France), Dr. O. Vogt (Germany). Dr. Mario Gozzano, Professor of Neurology and Psychiatry at the University of Rome, has been elected President of the Congress. Dr. Armando Ferraro, New York, has been elected Secretary-General.

The meeting will last six days. In the morning sessions, assigned topics will be presented by qualified investigators from various countries. In the afternoon sessions, discussions and individual papers dealing with the morning topics will be presented. The following topics have been agreed upon at the preliminary meeting of the chairmen of the various national committees which was held in Paris on May 30 and 31, 1951. First day: Pathology of demyelinating diseases (five speakers). Second day: Pathology of vascular diseases (six speakers). Third day: Pathology in schizophrenia (nine speakers). Fourth day: Pathology of

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED AUGUST 4, 1951.¹

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory. ²	Australian Capital Territory.	Australia. ³
Ankylostomiasis	•	•	•	•	2	•	•	•	2
Anthrax	•	•	•	•	•	•	•	•	•
Beriberi	•	•	•	•	•	•	•	•	•
Bilharziasis	•	•	•	•	•	•	•	•	•
Cerebro-spinal Meningitis ..	4(3)	2(2)	3(1)	2(2)	2(2)	•	•	•	13
Cholera	•	•	•	•	•	•	•	•	•
Coastal Fever(a)	•	•	•	•	•	•	•	•	•
Dengue	•	•	•	•	•	•	•	•	•
Diarrhoea (Infantile)	•	•	9(8)	•	•	•	•	•	9
Diphtheria	3	3(1)	4(4)	•	3(3)	•	•	•	13
Dysentery (Amoebic)	•	•	•	•	2	•	•	•	2
Dysentery (Bacillary)	•	•	3(3)	•	•	•	•	•	3
Encephalitis Lethargica	•	•	•	•	•	•	•	•	•
Erysipelas	•	•	•	3	•	•	•	•	3
Filariasis	•	•	•	•	•	•	•	•	•
Helminthiasis	•	•	•	•	•	•	•	•	•
Hydatid	•	•	•	•	•	•	•	•	•
Influenza	•	•	•	•	•	•	•	•	•
Lead Poisoning	•	•	•	•	•	•	•	•	•
Leprosy	•	•	•	•	6	•	•	•	6
Malaria(b)	•	•	•	•	•	•	•	•	•
Measles	•	•	•	117(77)	•	•	•	•	117
Plague	•	•	•	•	•	•	•	•	•
Polio-myelitis	18(10)	11(4)	21(11)	25(24)	6(3)	1(1)	•	1	83
Pottiosis	•	•	•	•	•	•	•	•	•
Puerperal Fever	•	6(6)	1(1)	•	2(2)	•	•	•	9
Rubella(c)	•	•	•	•	•	•	•	•	•
Scarlet Fever	21(13)	10(7)	7(3)	11(9)	2(1)	6(5)	•	•	63
Smallpox	•	•	•	•	•	•	•	•	•
Tetanus	•	1	•	•	3(3)	•	•	•	4
Trachoma	•	•	•	•	•	•	•	•	•
Tuberculosis(d)	24(20)	24(18)	11(5)	9(6)	10(6)	4(2)	•	•	82
Typhoid Fever(e)	1(1)	•	•	•	•	•	•	•	1
Typhus (Endemic)(f)	•	•	1	•	1(1)	•	•	•	2
Undulant Fever	•	1(1)	•	•	•	•	•	•	1
Weill's Disease(g)	•	•	•	•	•	•	•	•	•
Whooping Cough	•	•	•	1(1)	•	•	•	•	1
Yellow Fever	•	•	•	•	•	•	•	•	•

¹ The form of this table is taken from the *Official Year Book of the Commonwealth of Australia*, Number 37 1946-1947. Figures in parentheses are those for the metropolitan area.

² Figures not available.

³ Figures incomplete owing to absence of returns from the Northern Territory.

⁴ Not notifiable.

(a) Includes Moxman and Sarina fevers. (b) Mainly relapses among servicemen infected overseas. (c) Notifiable disease in Queensland in females aged over fourteen years. (d) Includes all forms. (e) Includes enteric fever, paratyphoid fevers and other *Salmonella* infections. (f) Includes scrub, murine and tick typhus. (g) Includes leptospirosis, Weil's and para-Weil's disease.

mental deficiencies (five speakers). Fifth day: Pathology of senility (six speakers). Sixth day: Papers and demonstrations of special histopathological and histochemical techniques.

Neuropathologists, neurologists, psychiatrists, and pathologists are cordially invited. The registration fee for active membership to the Congress has been established at \$15.00 in American money or its equivalent in foreign currency.

Additional information may be obtained from a member of the National Committee for Australia and New Zealand: E. D'Ath, Dunedin, New Zealand; A. J. Canny, Brisbane; Leonard Cox, Melbourne; Keith Inglis, Sydney; J. S. Robertson, Adelaide.

Obituary.

THOMAS PATRICK NOONAN.

We regret to announce the death of Dr. Thomas Patrick Noonan, which occurred on August 12, 1951, at Melbourne.

JOHN WESLEY HART.

We regret to announce the death of Dr. John Wesley Hart, which occurred on August 19, 1951, at Sydney.

Corrigendum.

REFERENCE was made in "Current Comment" in the issue of June 23, 1951, at page 914, under the heading "The Duration of Gestation", to a communication by J. R. Gibson and Thomas McKeown. Owing to an error the appropriate footnote was omitted, and the impression is given that Gibson and McKeown's paper appeared in *The American Journal of the Medical Sciences*. In fact, the paper appeared in *The British Journal of Social Medicine*, October, 1950. We regret this error.

Medical Appointments.

Dr. J. F. Connell has been appointed a public vaccinator for the Shire of Kyneton, Victoria.

Dr. M. W. Cave has been appointed a public vaccinator for the Shire of Colac, Victoria.

Dr. C. J. Cummins has been appointed an inspector of theatres and public halls for New South Wales.

Dr. R. G. White has been appointed surgical registrar at the Royal Adelaide Hospital.

Dr. B. J. Shea has been appointed resident medical officer at the Royal Adelaide Hospital.

Nominations and Elections.

THE UNDERMENTIONED has applied for election as a member of the New South Wales Branch of the British Medical Association:

Sheehan, Anthony Hawthorne, M.B., B.S., 1951 (Univ. Sydney), 21 Alexandra Street, Hunter's Hill.

THE UNDERMENTIONED have been elected members of the New South Wales Branch of the British Medical Association:

Bedingfield, Richard Collier, M.B., B.S., 1951 (Univ. Sydney), Wellington District Hospital, Wellington, New South Wales.

Bowring, Aubrey Charles, M.B., B.S., 1948 (Univ. Sydney), 93 Milton Street, Ashfield.

Breitner, Lothar Franz, M.B., B.S., 1944 (Univ. Sydney), 1 Canonbury Grove, Dulwich Hill.

Champion, Maret, M.B., B.S., 1951 (Univ. Sydney), Tweed District Hospital, Murwillumbah.

Dunlop, John Albert Gordon, M.B., B.S., 1951 (Univ. Sydney), Royal North Shore Hospital, St. Leonards.

Fotheringham, Joan Marcelle, M.B., B.S., 1942 (Univ. Sydney), 20 Cooper Street, Strathfield.

Ivanov, Aksel, M.B., B.S., 1951 (Univ. Sydney), 17 Blandford Avenue, Waverley.

Madew, Lindsay Edward, M.B., B.S., 1951 (Univ. Sydney), Royal Prince Alfred Hospital, Camperdown.

Nield, James Marland, M.B., B.S., 1951 (Univ. Sydney), Balmalm and District Hospital, Balmalm.

Pitsch, Werner Jobst, M.B., B.S., 1951 (Univ. Sydney), 9 Rosetta Avenue, Killara.

Pollard, Brian James, M.B., B.S., 1950 (Univ. Sydney), Royal Newcastle Hospital, Newcastle.

Webb, Brian Hayley, M.B., B.S., 1949 (Univ. Durham), H.M.A.S. Murchison, c.o. G.P.O., Sydney.

Woodgate, Geoffrey Irving, M.B., B.S., 1951 (Univ. Sydney), Base Hospital, Grafton.

Diary for the Month.

- SEPT. 4.—New South Wales Branch, B.M.A.: Organization and Science Committee.
SEPT. 5.—Victorian Branch, B.M.A.: Branch Meeting.
SEPT. 5.—Western Australian Branch, B.M.A.: Council Meeting.
SEPT. 6.—South Australian Branch, B.M.A.: Council Meeting.
SEPT. 6.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
SEPT. 7.—Queensland Branch, B.M.A.: Branch Meeting—Jackson Lecture
SEPT. 7.—Tasmanian Branch, B.M.A.: Council Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federal Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178 North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205 Saint George's Terrace, Perth): Norseman Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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